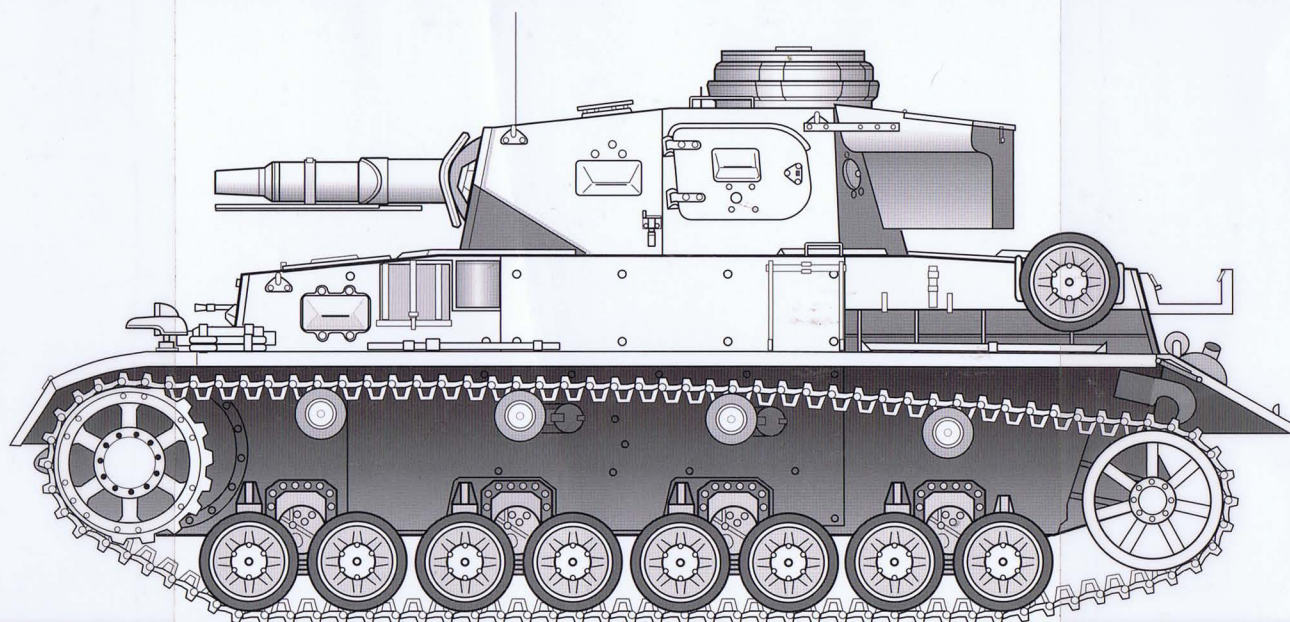
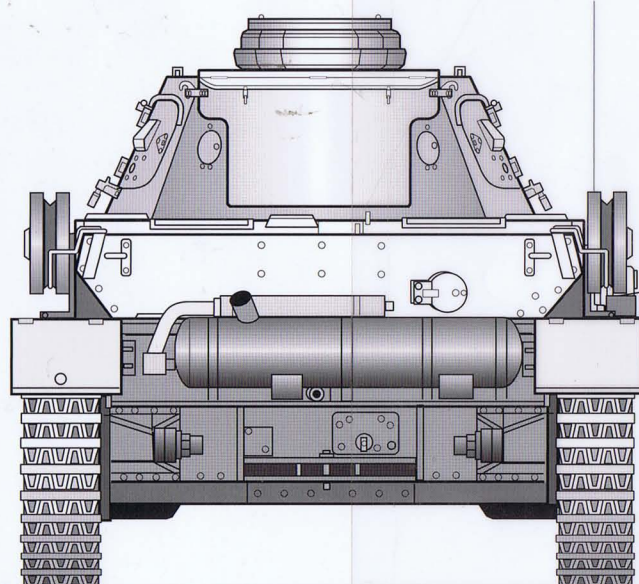
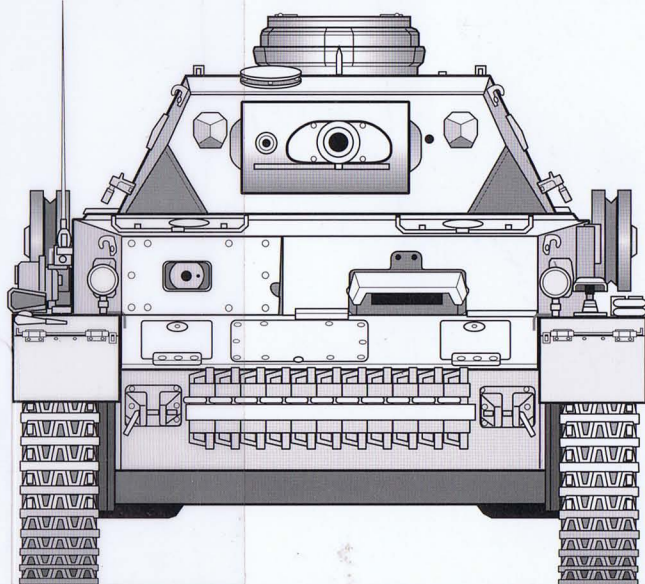
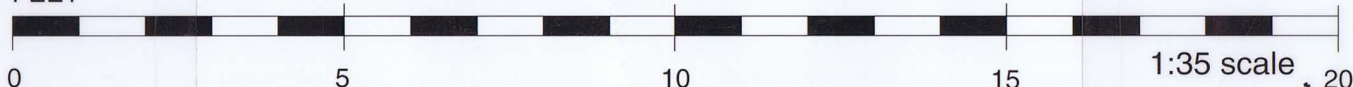


# WORLD WAR II AFV PLANS

## GERMAN EARLY WAR ARMORED FIGHTING VEHICLES



FEET



GEORGE BRADFORD



# **GERMAN EARLY WAR ARMORED FIGHTING VEHICLES**

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**GEORGE BRADFORD**

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# Introduction

The first volume in this series of books on scale drawings of armored fighting vehicles of World War II is devoted to German military vehicles which appeared in the early years of the war. Many of these vehicles were either in use or in development from 1936 to 1943, and are shown here roughly in chronological order of appearance on the scene. However, there was much overlap in vehicle production, and this makes it somewhat difficult to establish a sequence which is totally perfect.

Therefore, if you are looking for armored vehicles that came into German service before early 1943, then you should be able to find them in this book. Vehicles encountered after early 1943 up to the end of the war will be covered in volume Four, Late WWII German Vehicles. Among the vehicles covered you will find some of the prototypes that never really saw action, plus some of the vehicles that were just too late to participate in the war. You will also find that we cover mainly armored fighting vehicles, but also with a few support vehicles that fought along side of them thrown in.

The ultimate purpose of this series of books is to try and present a sequence of World War II military vehicle plan view scale drawings all in one place. Most of these drawings display 4-view plans, but with some of the smaller vehicles we were able to show five or more views. However, no matter how well the plans are drawn it is always necessary to have sufficient photo reference books as well. There are a number of “walk around” and close up view series on the market to give the super detailers all the finer detail they could ask for.

Over the years, scale drawings of various armored vehicles have appeared in magazines and books, but never all in one place where they would be easy for the researcher or modeler to access them. Many different scales have fought for the lime-light, but the more popular ones of late have boiled down to mainly 1:35, 1:48 and 1:72 in the armor modeling world. With this in mind we have tried to keep the drawings as large as possible with a preponderance of 1:35 scale drawings, supported by 1:48 scale where appropriate, and also for vehicles that are simply too big to fit on these pages comfortably as 1:35 scale drawings. The 1:72 scale plans are mainly used to fill out a page here and there, and give the modeler some choice.

You will also find a chart at the beginning of this book for reducing or enlarging any of these drawings to other popular scales. The quality and accuracy of modern photocopying should make it possible for you to achieve whatever final scale you require. However, in some cases where enlargement is required, you may only be able to squeeze one view onto letter size paper and may have to utilize 11" x 17" paper where available.

These drawings have been created using vector based drawing applications with line weights ranging from .25 point to 1 point, and thus should easily hold the finer detail when copying. The bulk of these drawings were done over a period of ten years and are currently among the most precise and accurate AFV drawings available. You will also notice a variance in the drawings as the art style changes slightly over the years, but eventually supports shading in the majority of the later works.



## SCALE CONVERSIONS

### REDUCING

1:35 to 1:48 Scale = 73%  
 1:35 to 1:76 Scale = 46%  
 1:35 to 1:72 Scale = 49%  
 1:35 to 1:87 Scale = 41%  
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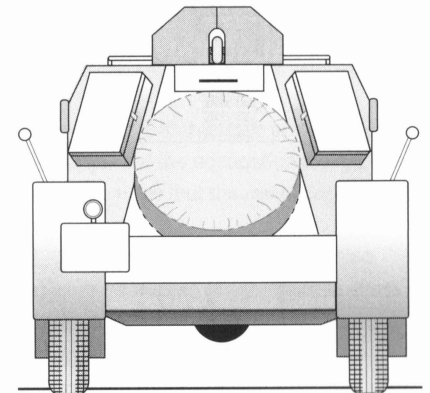
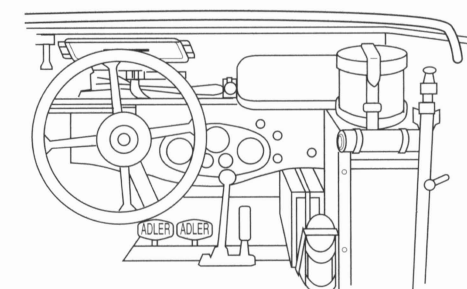
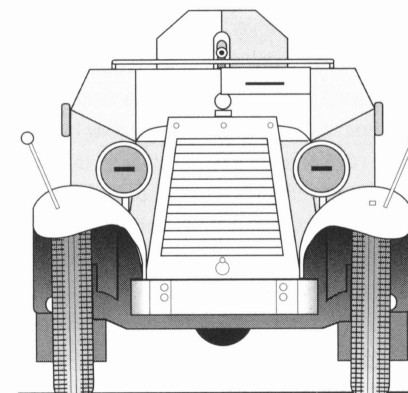
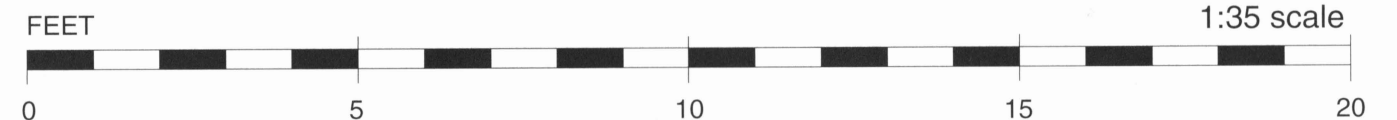
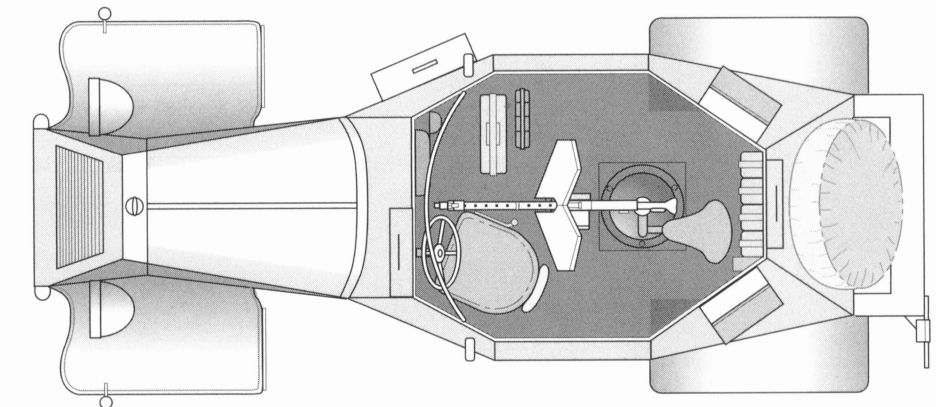
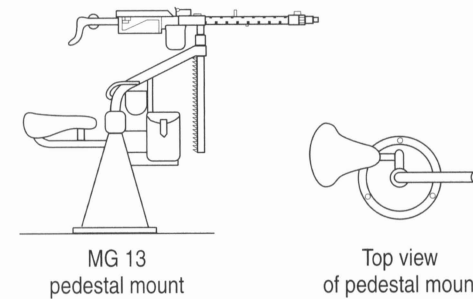
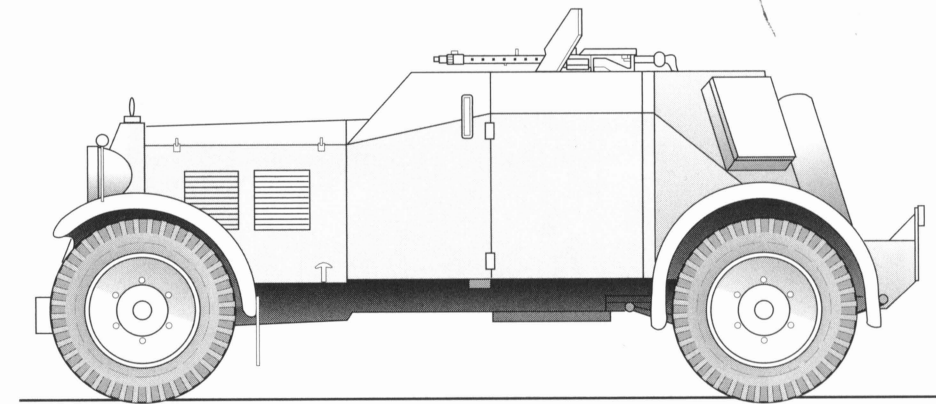
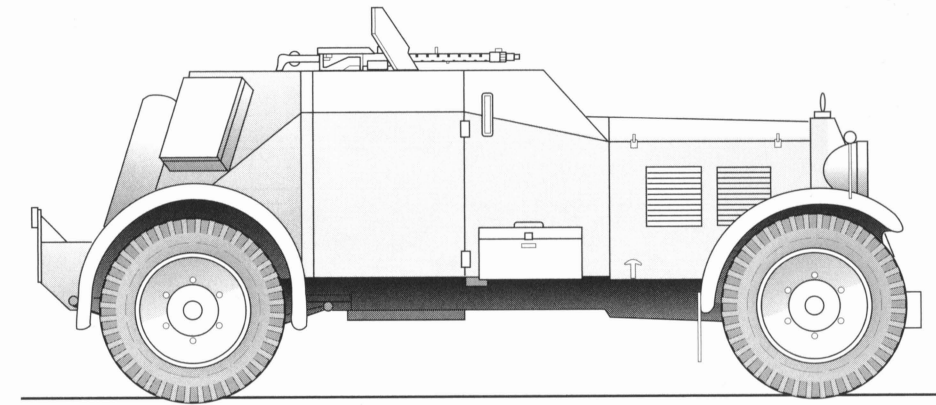
### ENLARGING

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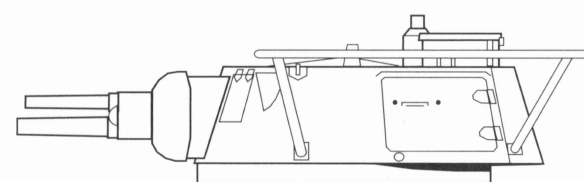
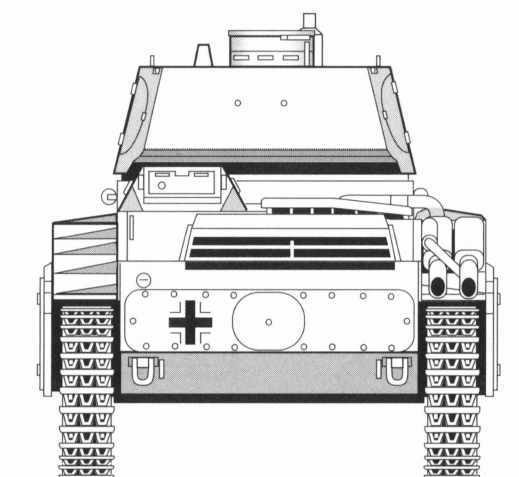
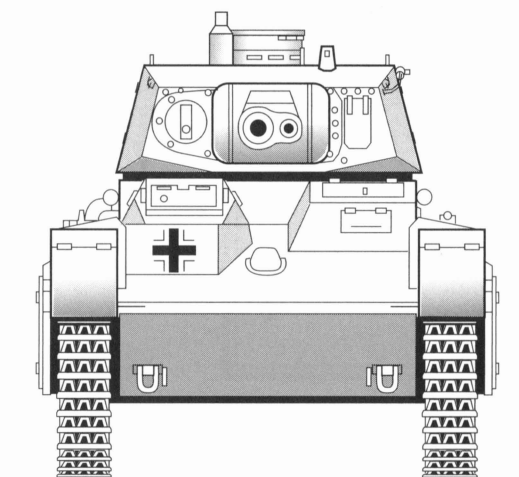
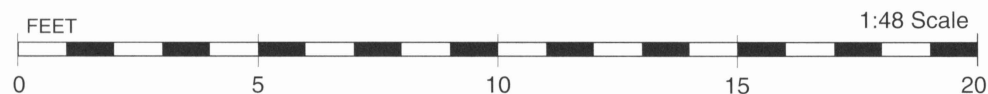
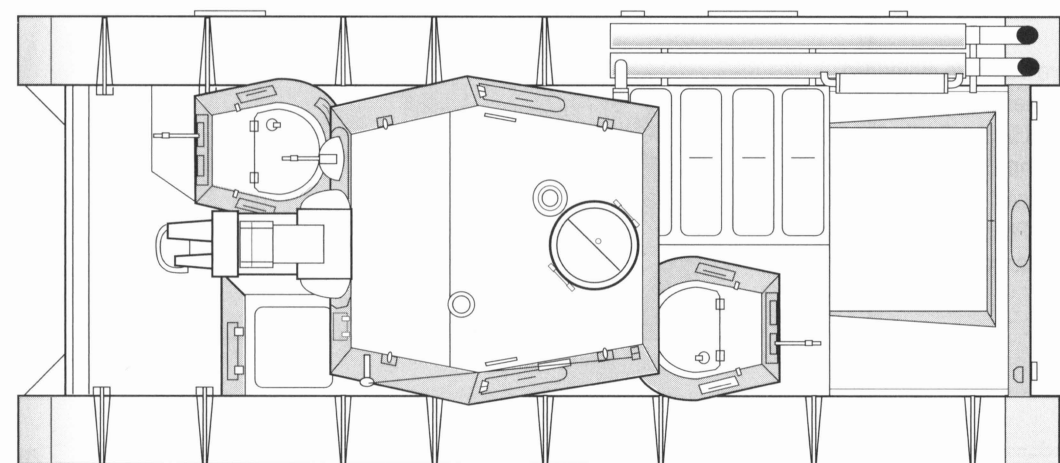
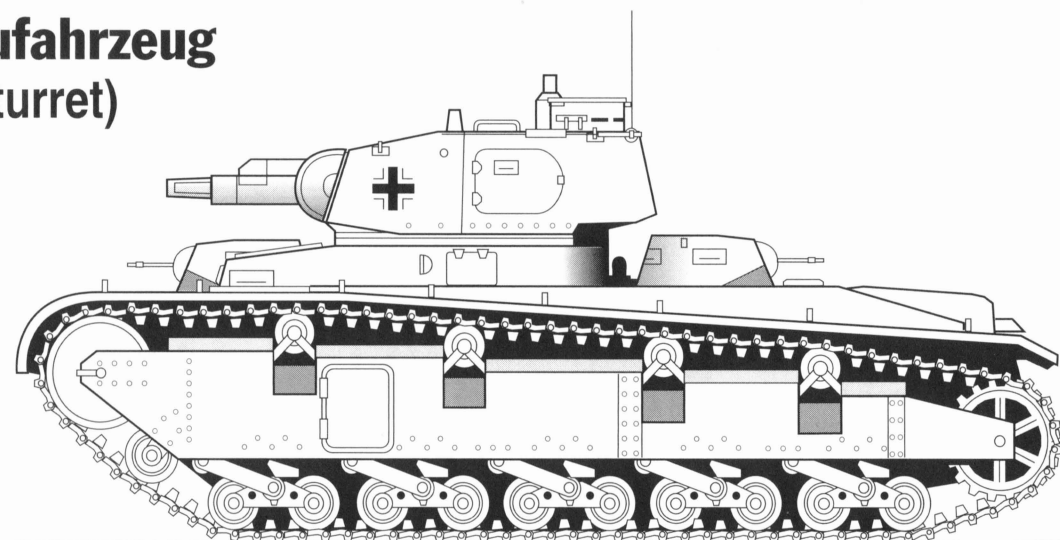
## Maschinengewehrkraftwagen Adler Kfz. 13

The Kfz. 13 was one of the first light armored reconnaissance car fielded by the new expanding army of the German Reichswehr in the early 1930s. It was based on the popular Adler Standard 6 Kübelsitzer passenger car. This 4 x 2 built by Alderwerke was fitted with an 8mm armored superstructure, and mounted a pedestal mounted MG 13. It had a crew of two, and the commander was seated in the machinegun position. The estimated top speed was 79 km/h, with a range of 300 km. About 150 were built between 1932 and 1934, along with about 40 Kfz. 14 of the radio car version.

These vehicles were issued to motorized reconnaissance detachments from 1932. By 1935 they were being replaced by the SdKfz. 221 and 223, and finally by 1938 had been relegated to recce units of non-motorized divisions. They certainly took part in the Polish invasion, and some served in the battle for France and the early advances in Russia.

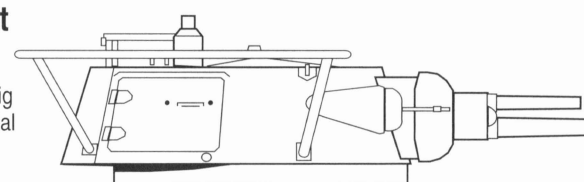


## Neubaufahrzeug (Krupp turret)



### Rheinmetall Turret

The early Rheinmetall-Borsig turret design with frame aerial and stacked guns.



The Neubaufahrzeug was the first German heavy tank built under Hitler's government. For all intents and purposes it would be classified as a medium tank today, but at the time it was publicized as the flagship of the new German panzers. In 1933 the German High Command issued a contract to Rheinmetall-Borsig for a multi-turreted tank, since this was the concept of the day being employed by other armies at the time.

Their specifications called for a vehicle in the 20 ton class and armed with the low velocity 7.5cm and a 3.7cm anti-tank gun. These were to be installed in a combination mount in the main turret, and accompanied by secondary turrets armed with machine guns.

By the end of 1934 two soft steel prototypes of the Neubaufahrzeug (Nbfz) were built and ready for their initial field trials. The chassis and suspension appear to have been acceptable, and an order was then placed for three chassis with proper armor plate. However, the complex Rheinmetall turret was another matter, and was eventually rejected in favor of a Krupp design.

By 1935 Rheinmetall had completed the three armored hulls, and Krupp solved the problem of the combination gun mount. At this time all five vehicles mounted similar secondary turrets armed with one MG 13 each. However, early in WW2, prior to their employment in Norway the three armored Nbfz vehicles were fitted with the mantlet of the PzKpfw.I production turret. However, they were somewhat higher and with different vision ports, and the single armament was upgraded to the standard MG 34.

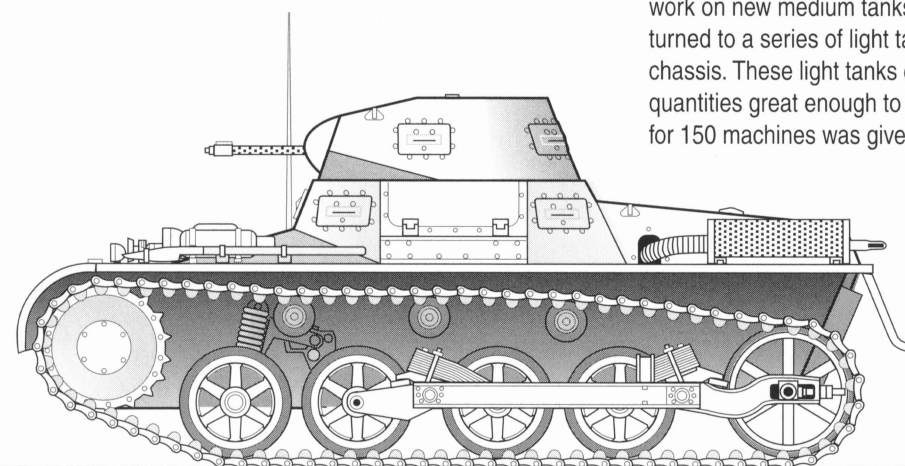
When Germany invaded Norway in 1940 the three armored Nbfz platoon was shipped to Oslo in support of the occupation troops there. One was destroyed near Lillehammer, but the remaining two eventually returned to Germany.

The two soft metal prototypes were used by the tank training school at Putlos until 1940 and were often seen in propaganda shots. However, after further trials the Neubaufahrzeug design was deemed unacceptable and production ceased.

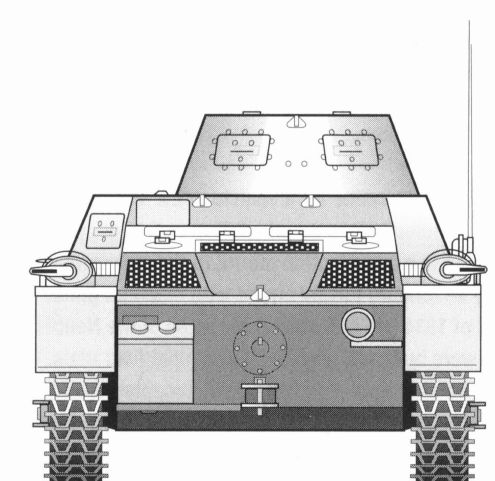
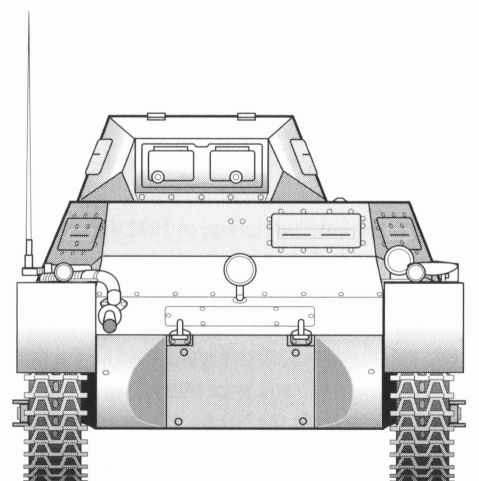
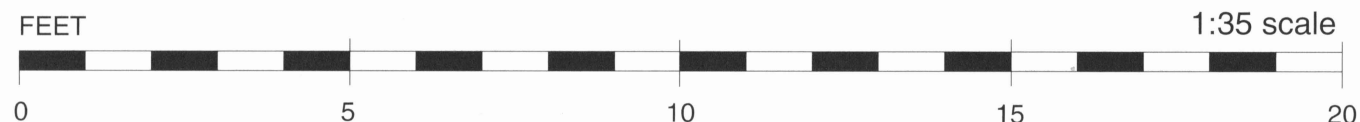
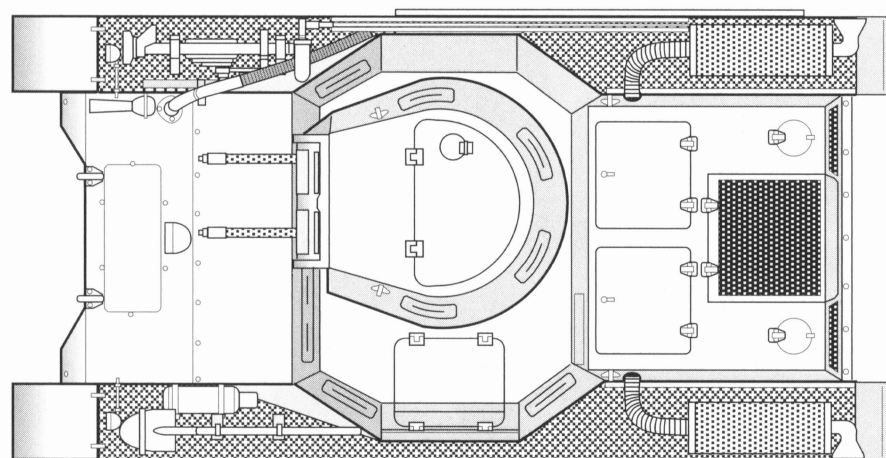


## Pz.Kpfw. I Ausf. A (Sd.Kfz. 101)

When Lt.Col. Heinz Guderian gained authority in 1931, he and Gen. Lutz agreed that the future makeup of the German Army must be armored troops in the form of panzer divisions. Not to alarm other world powers, work on new medium tanks was not advertised, and all attention was turned to a series of light tank designs based on the Carden-Lloyd Mk. VI chassis. These light tanks could be manufactured cheaply, and in quantities great enough to support serious training programs. An order for 150 machines was given.



Shown with aerial stowed in the travel position.



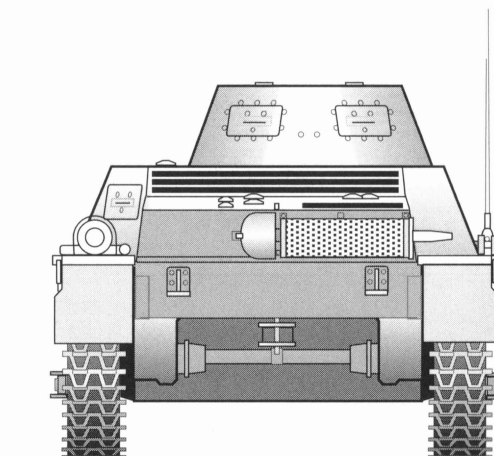
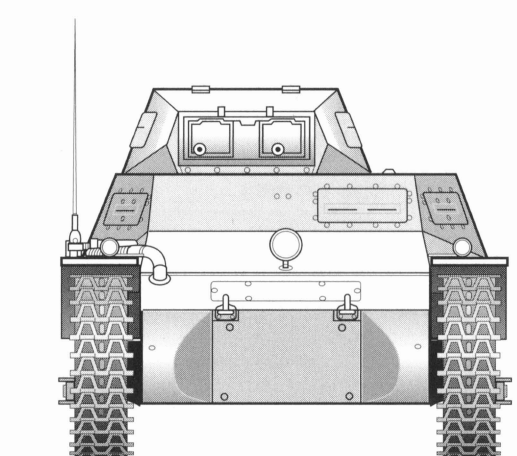
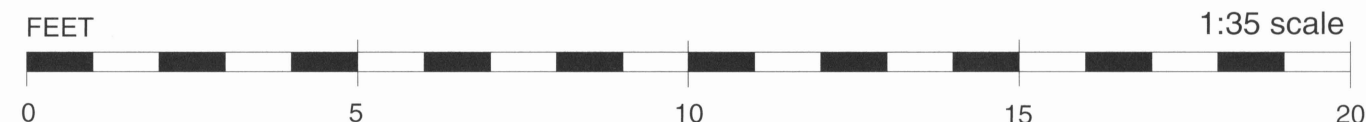
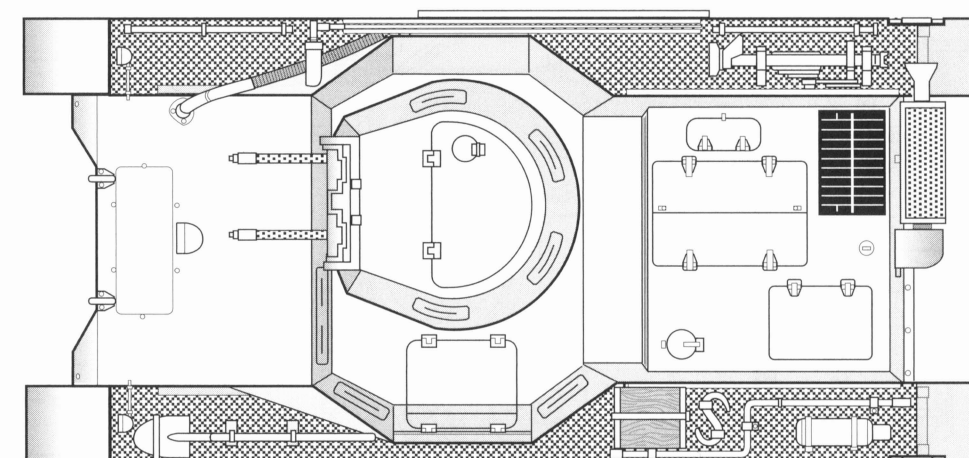
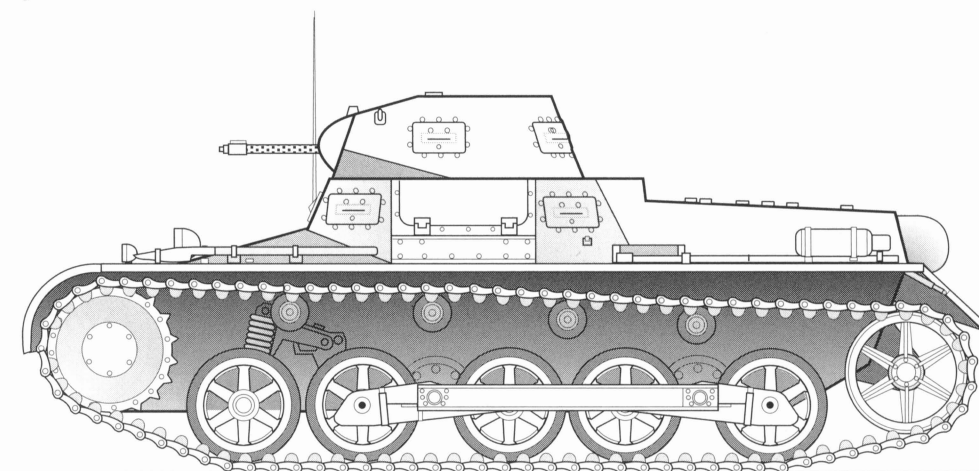
A Krupp design was chosen for the chassis, and Daimler-Benz would provide the turret design. By 1935 Henschel had joined in and the first vehicles were coming off the assembly lines. First known as the Krupp Traktor La S, it would eventually become the first modern German panzer, the first of many.

Munsterlager was chosen as a training ground, and by October of 1935 the first three Panzer Divisions were officially formed. They got their first baptism of fire in the Spanish Civil War of 1936-37.

Armed with twin MGs, it was eventually christened as the Pz.Kpfw.I Ausf. A in Feb. 1938, and would partake in the early fighting of WW2. It was used extensively in Poland and France, some even showed up in North Africa.

## Pz.Kpfw. I Ausf. B (Sd.Kfz. 101)

Serving with the Pz-Lehr-Abt. c. 1936  
Early Production



First produced in 1935, the Pz.Kpfw.I Ausf. B served along side the earlier Ausf. A light tanks. The Ausf. A version soon proved to be underpowered for serious cross-country operation, and a larger engine was required. A 6-cylinder Maybach NL 38 TR water-cooled engine was fitted, along with an improved transmission. The most distinguishing features of the Ausf. B are the addition of a fifth roadwheel to accomodate the larger engine, four return rollers, a single muffler at right rear, and a raised rear idler wheel.

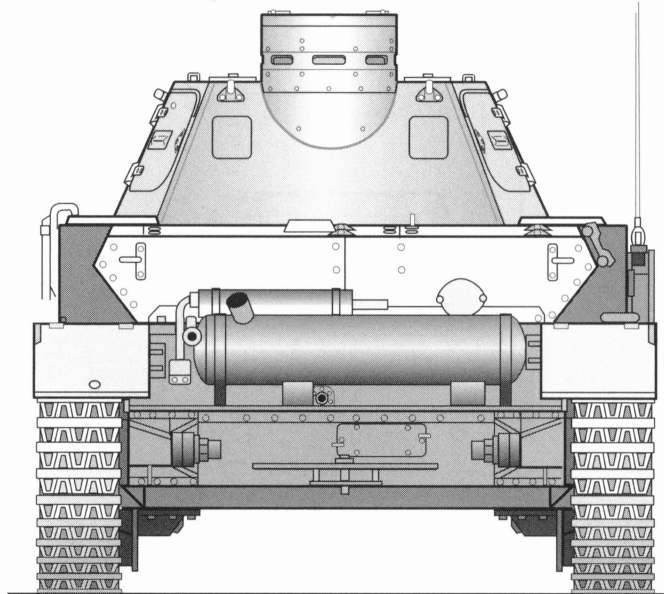
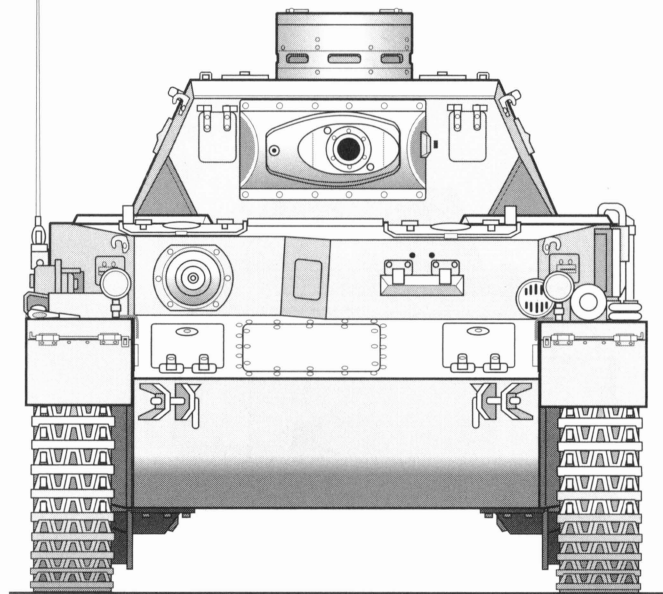
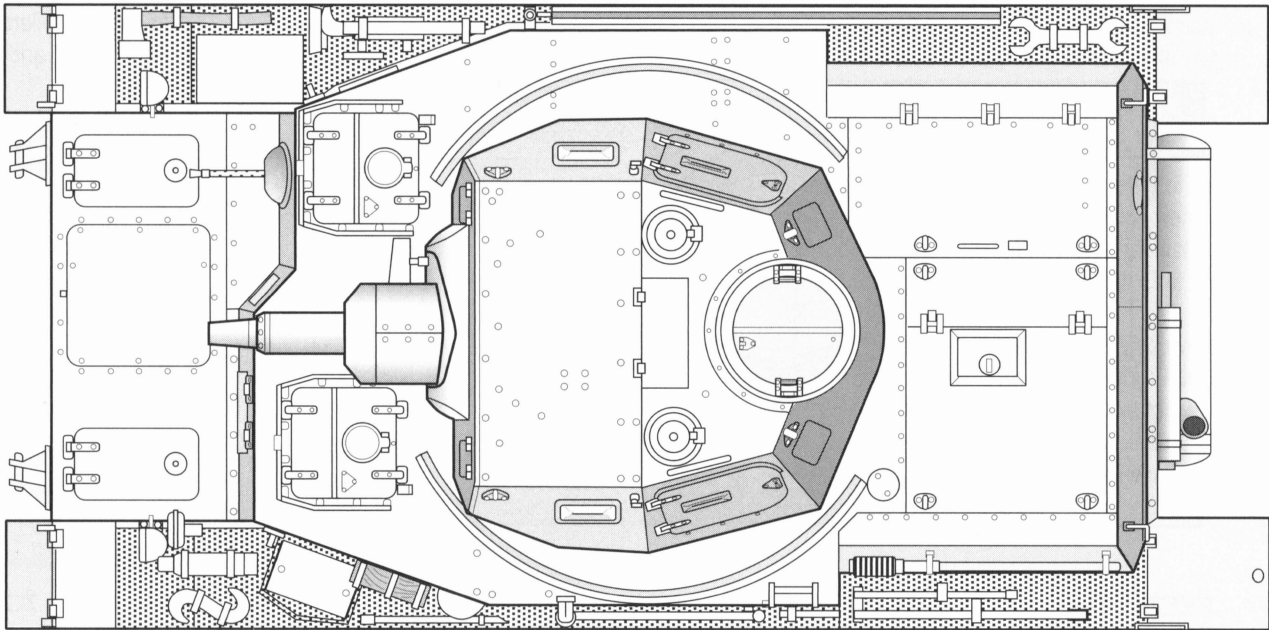
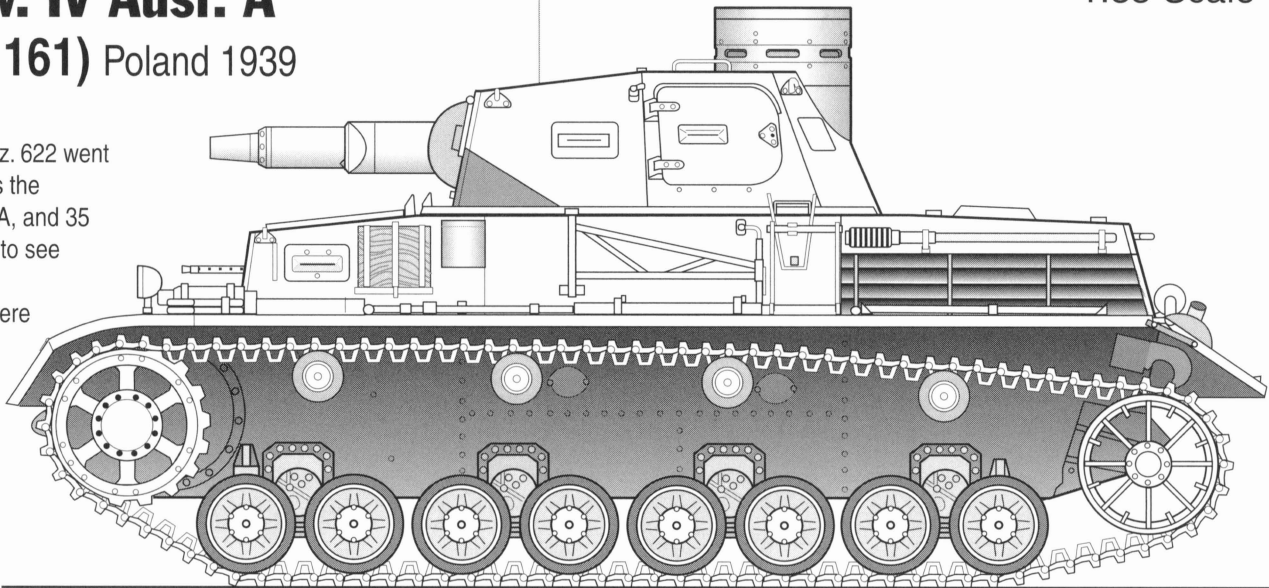
Both the Ausf. A and B models were first used in Spain, but proved dismally inferior to the Russian T-26s they encountered there. In the early battles of WW2 both types were pressed into service in Poland, Norway, France, and even North Africa. Those sent to Africa were modified for tropical service.



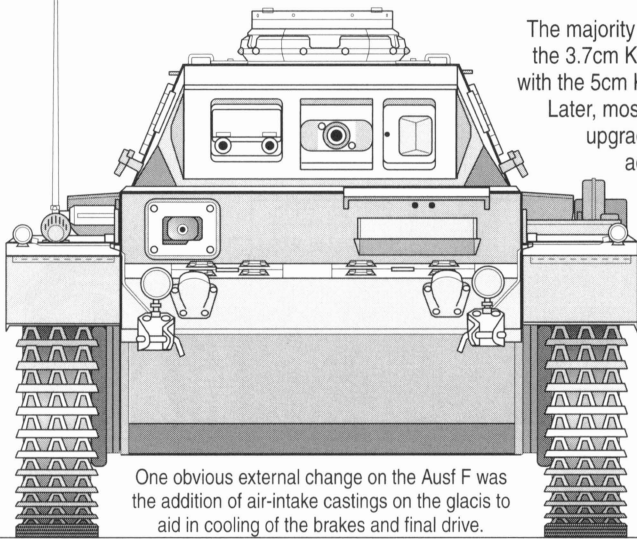
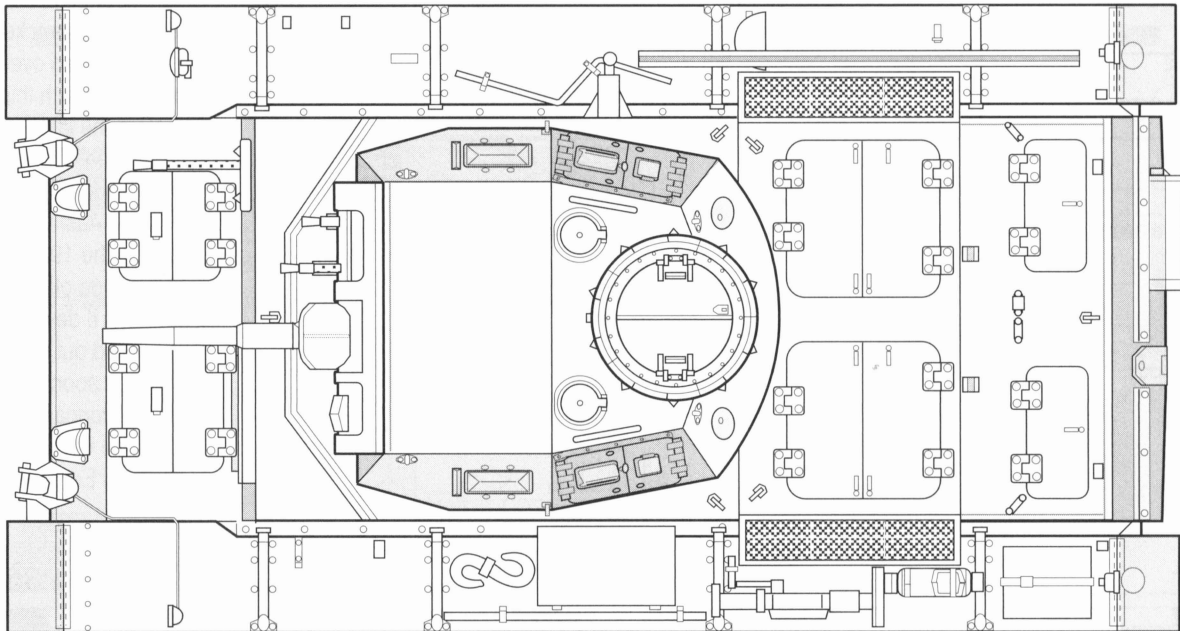
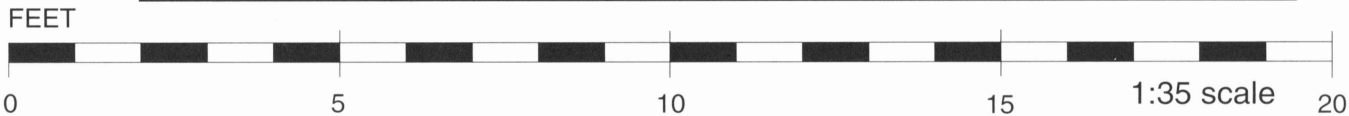
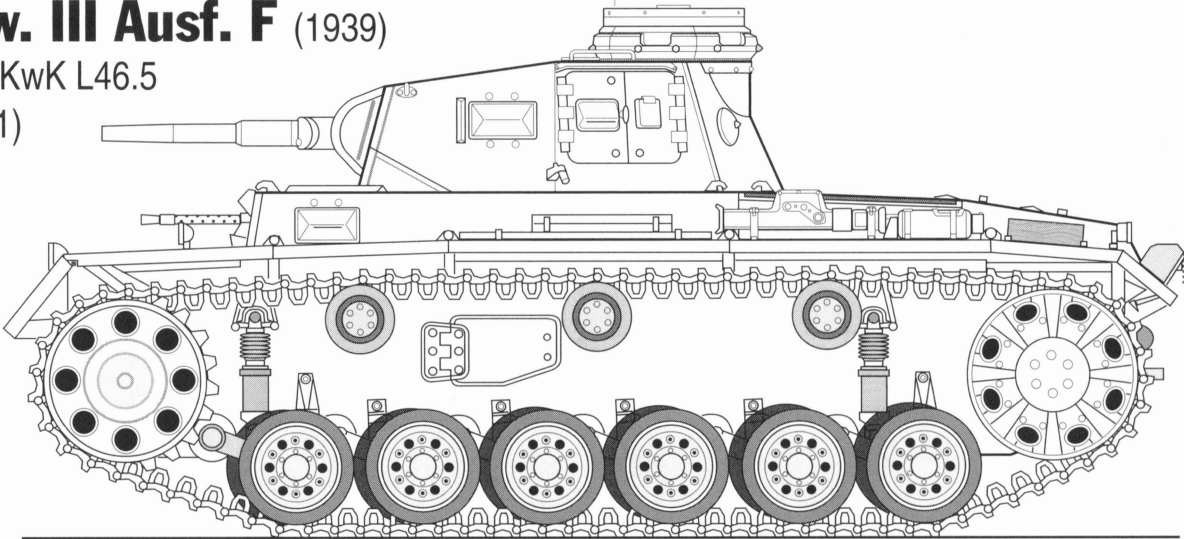
**Pz.Kpfw. IV Ausf. A**  
**(Sd.Kfz. 161) Poland 1939**

In 1937 the Vs Kfz. 622 went into production as the Pz.Kpfw.IV Ausf. A, and 35 were built in time to see service in Poland & France. They were then withdrawn and replaced by the Ausf. B for the 1941 campaign.

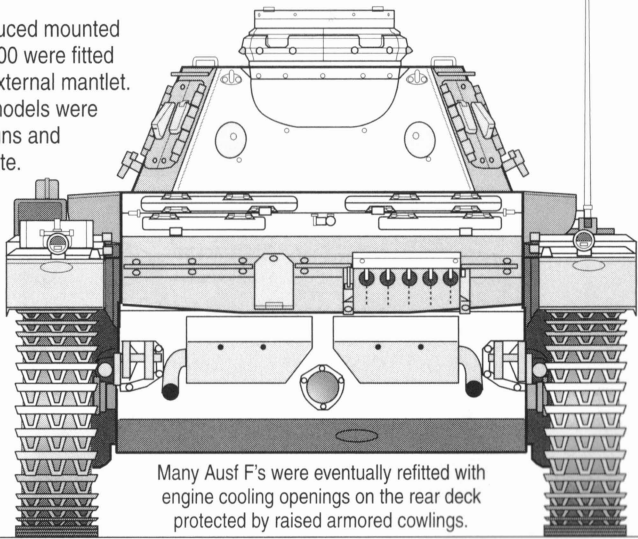
1:35 Scale



**Pz.Kpfw. III Ausf. F (1939)**  
with 3.7cm KwK L46.5  
**(Sd.Kfz. 141)**



One obvious external change on the Ausf F was the addition of air-intake castings on the glacis to aid in cooling of the brakes and final drive.

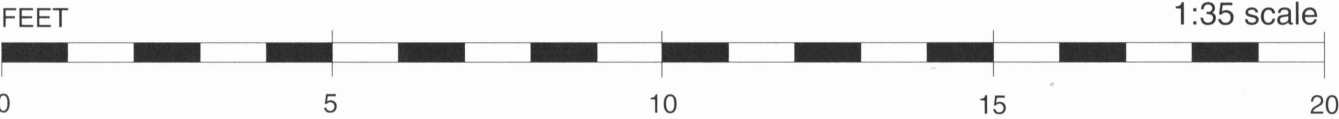
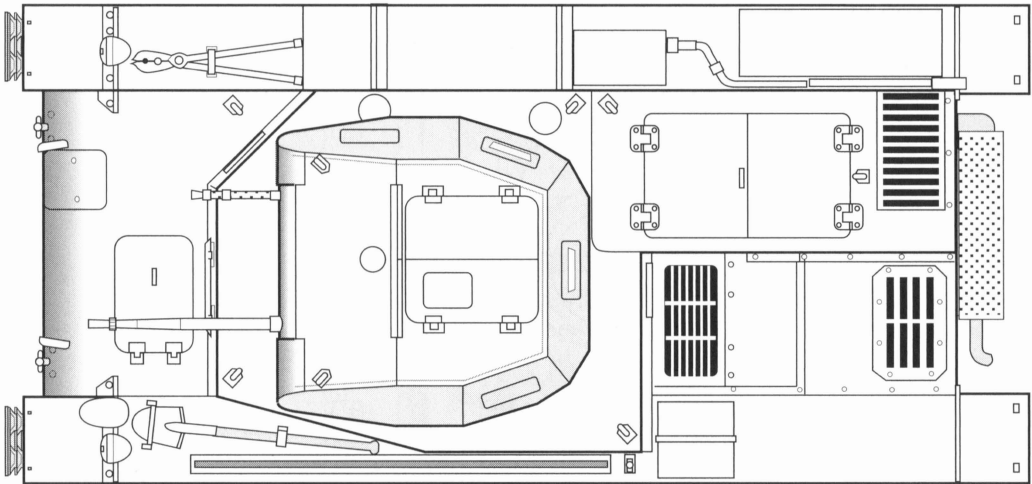
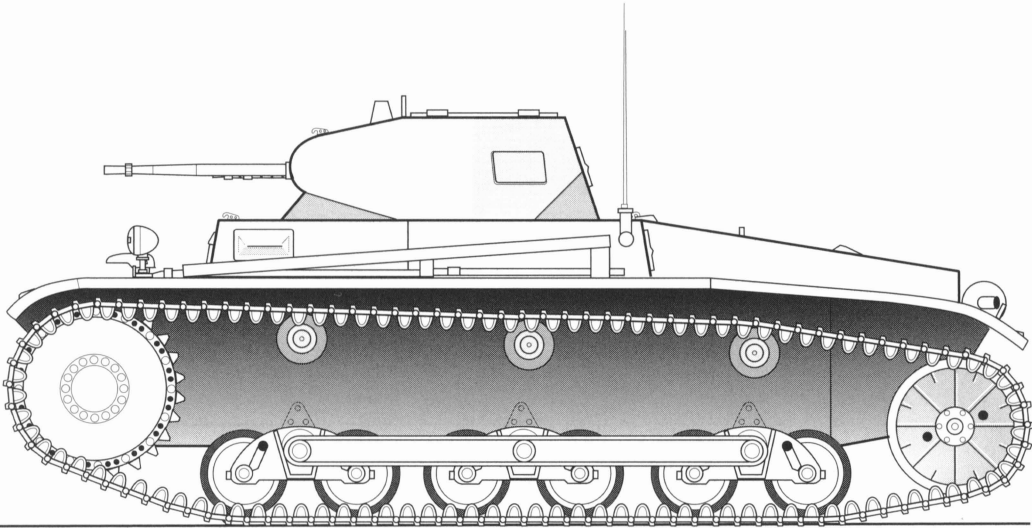


Many Ausf F's were eventually refitted with engine cooling openings on the rear deck protected by raised armored cowlings.

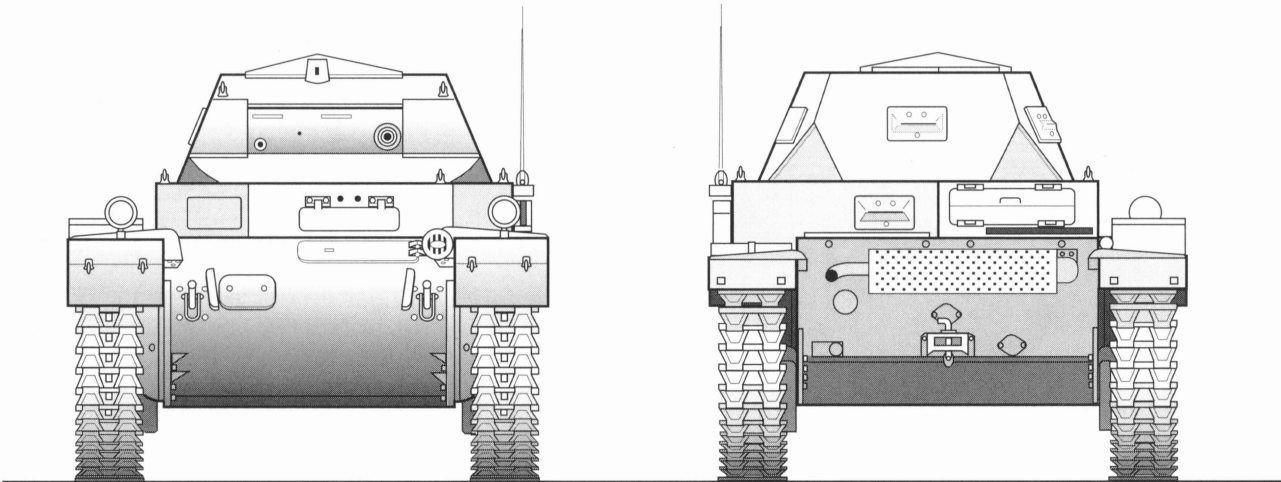
The majority of the 435 produced mounted the 3.7cm KwK, but about 100 were fitted with the 5cm KwK L/42 with external mantlet. Later, most of the 3.7cm models were upgraded with 5cm guns and add-on 30mm plate.

Pz.Kpfw. II Ausf. b (Sd.Kfz. 121)

Polish Campaign c.1939



1:35 scale



The Pz.Kpfw. II Ausf. b laid the groundwork for many of the characteristics of the eventual Pz.Kpfw. II. This version had been preceded by the Ausf. a/1, a/2 and a/3 of the first La S 100 series. As the second La S 100 series it was a part of this early experimentation, and as such the suspension featured the early style triple bogies sprung by leaf springs and braced with an outer supporting girder.

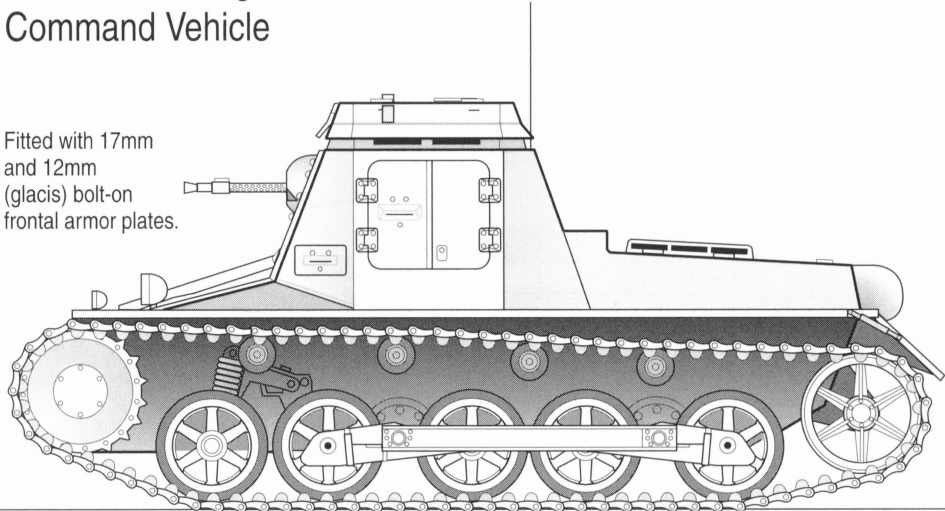
The Ausf. b was developed in 1936 and began coming off the production line early in 1937. It was fitted with the more powerful HL 62 engine, improved tracks, a new drive sprocket, and generally strengthened overall. A total of 25 were built with this suspension before the later, more common five-wheel style suspension of the Ausf c took over.

The Ausf. b saw serious action during the 1939 Polish Campaign along side other versions of the PzKpfw II developed by that date. It started out as a combat tank, but was soon redesignated as a light reconnaissance vehicle by the time Germany invaded western Europe and Russia.

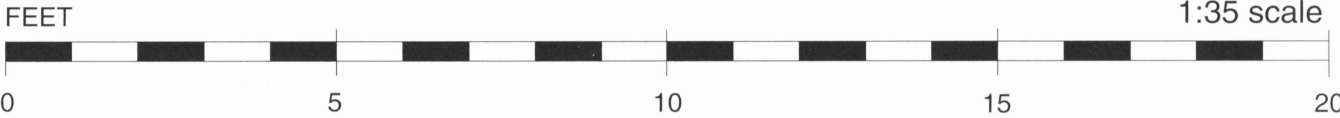
Kleiner Panzerbefehlswagen (Sd.Kfz. 265)

version 3K1B Light Armored Command Vehicle

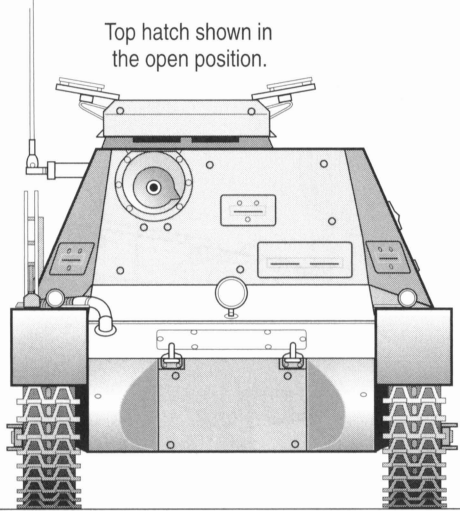
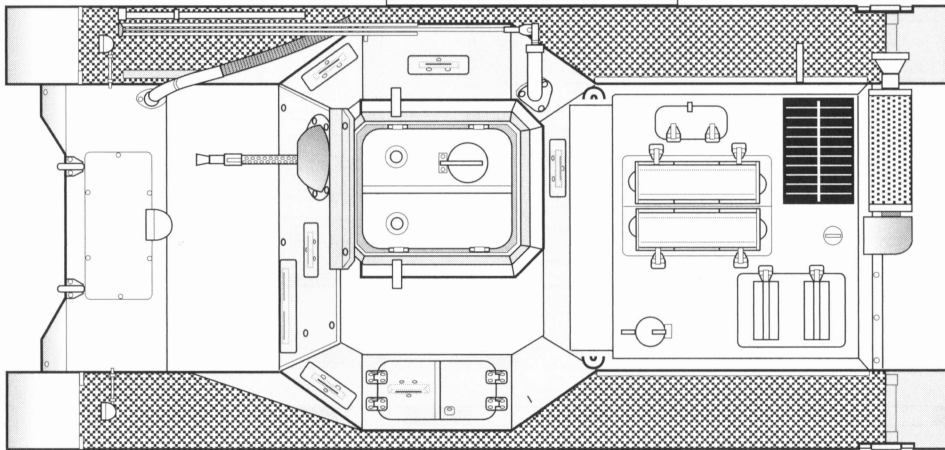
Fitted with 17mm and 12mm (glacis) bolt-on frontal armor plates.



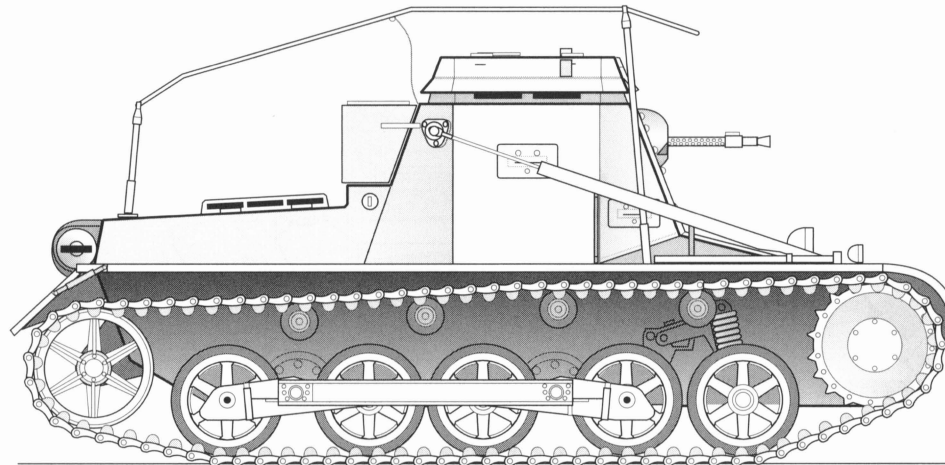
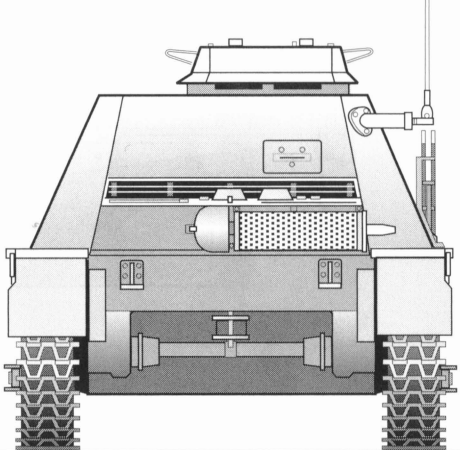
The front fender flaps were often absent on these vehicles.



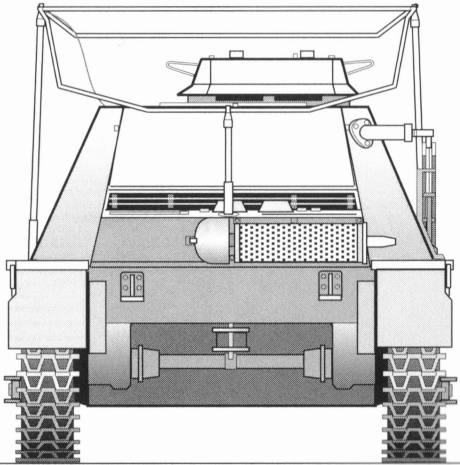
1:35 scale



Top hatch shown in the open position.

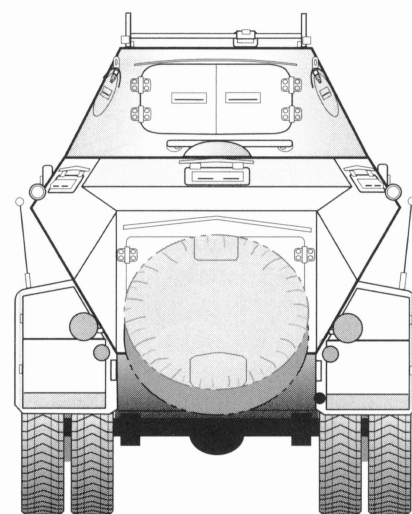
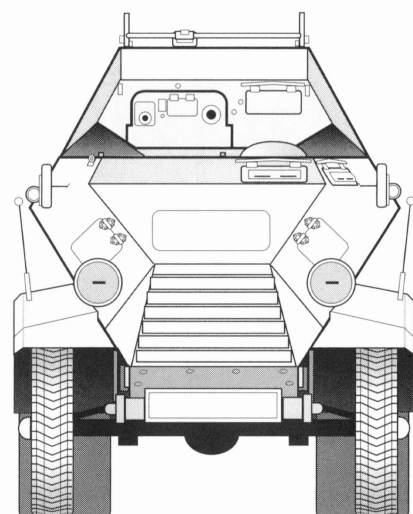
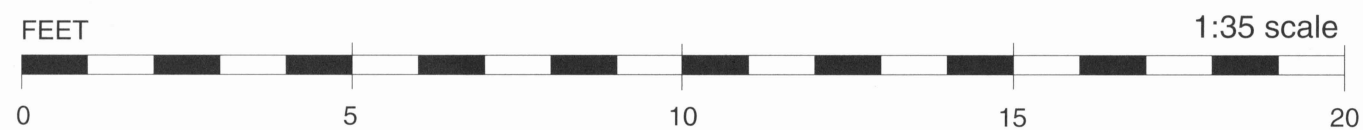
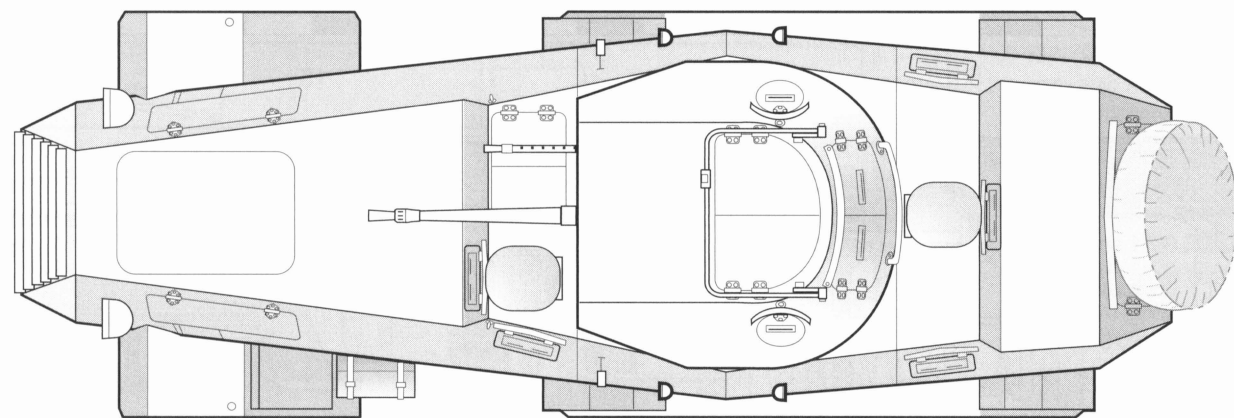
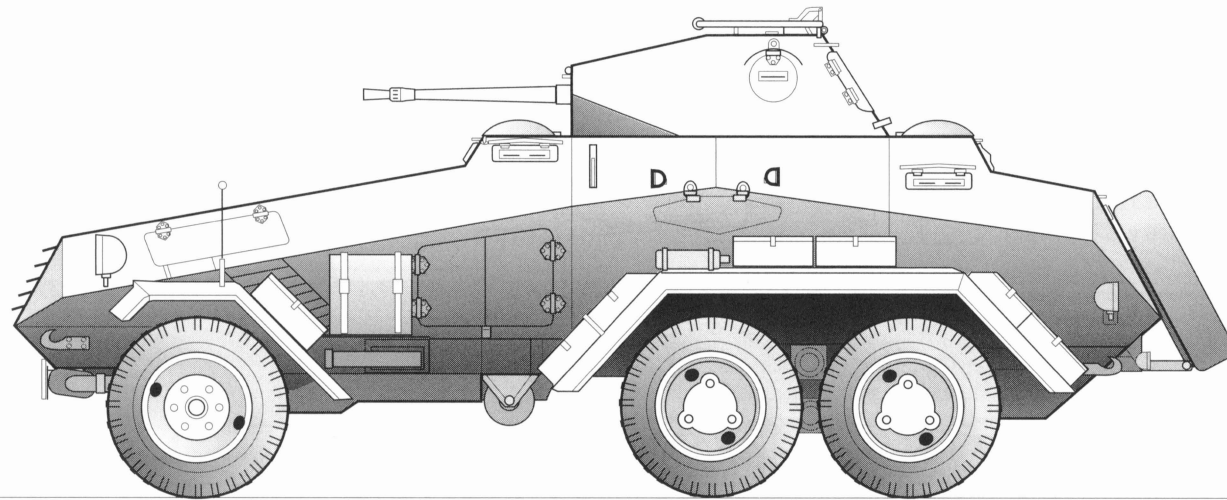


The kl Pz Bef Wg shown here is fitted with a frame aerial to support additional radio equipment, with the standard 2-meter antenna folded down into its protective wooden rack. It also displays the stowage bin often fitted.

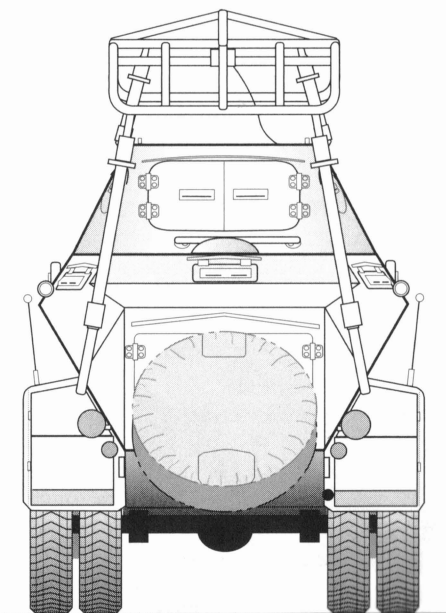
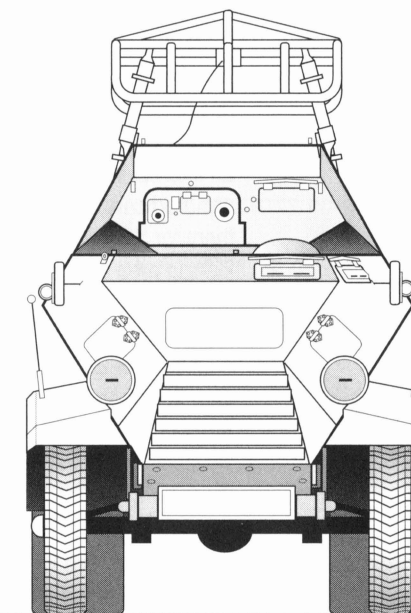
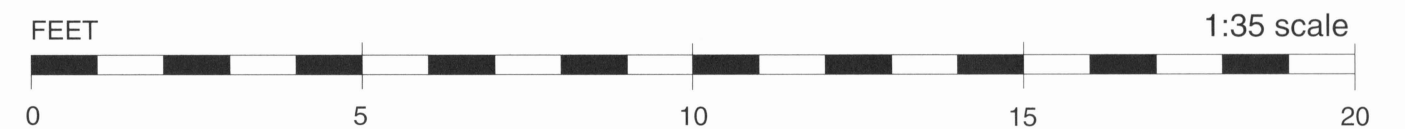
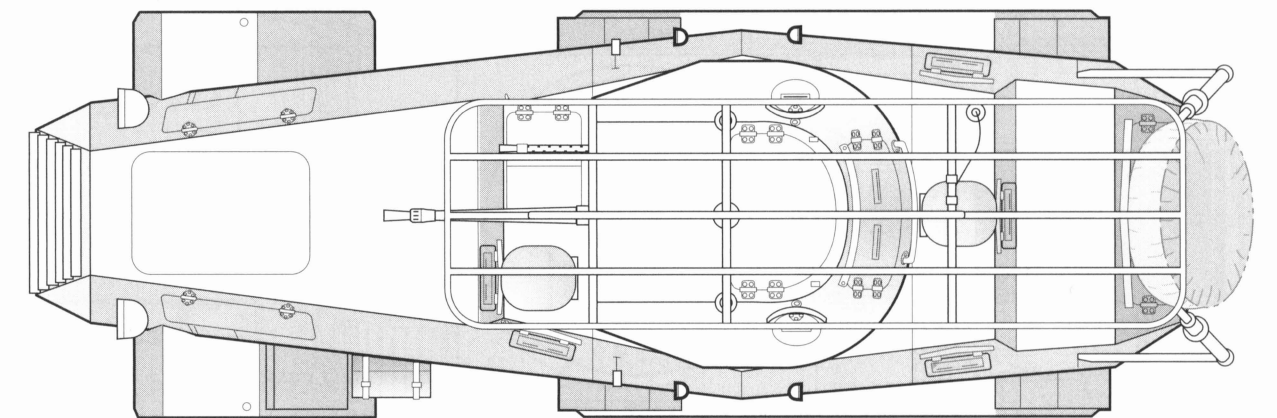
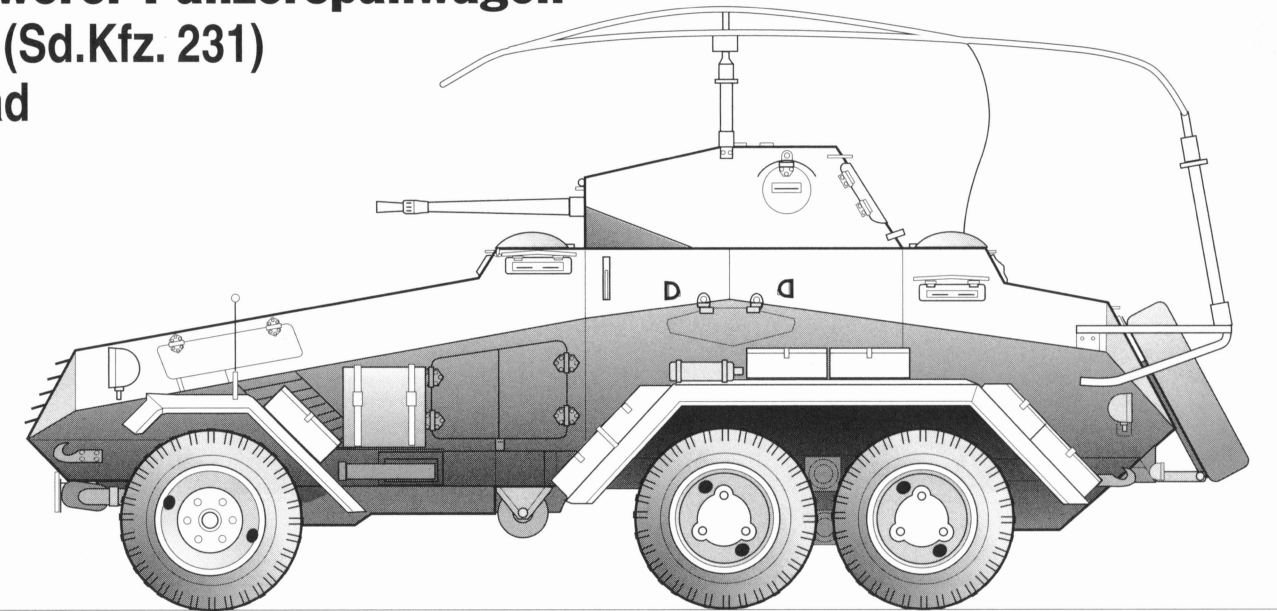




# Schwerer Panzerspähwagen (Sd.Kfz. 231) 6-Rad

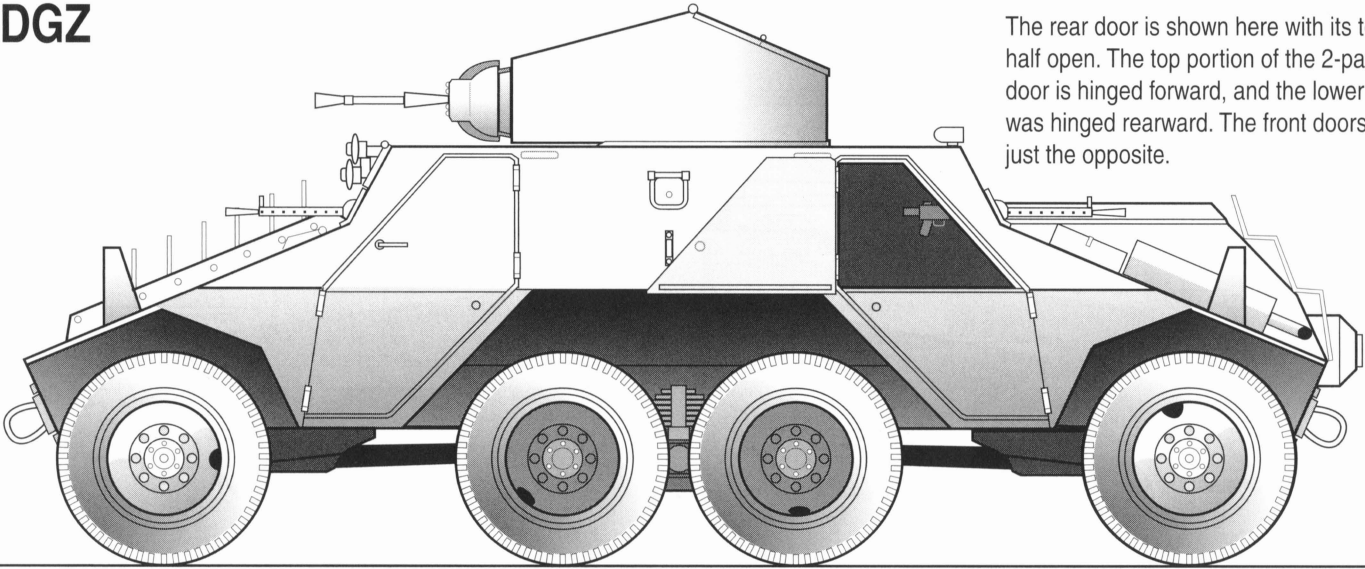


# Schwerer Panzerspähwagen (Fu) (Sd.Kfz. 231) 6-Rad

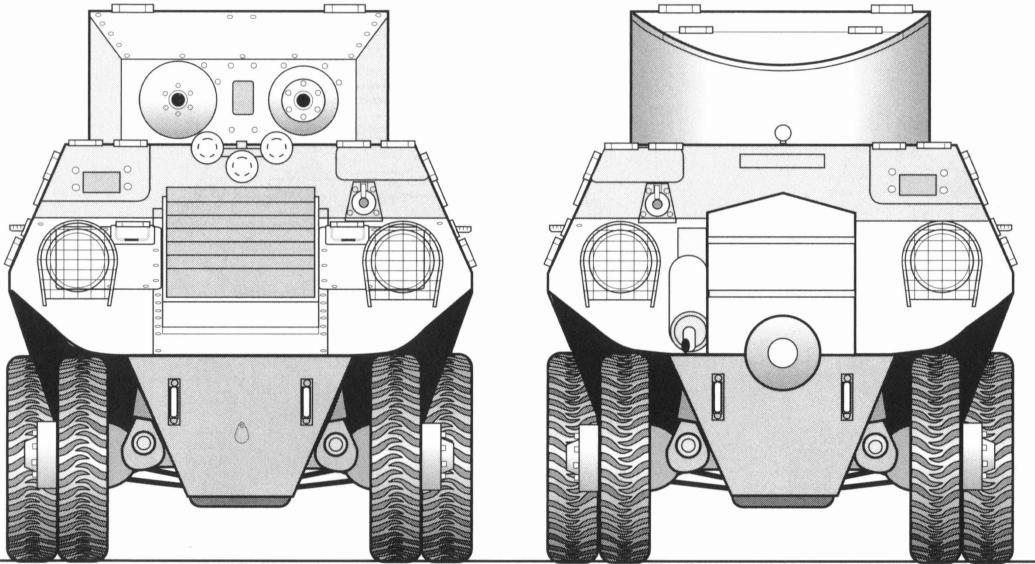
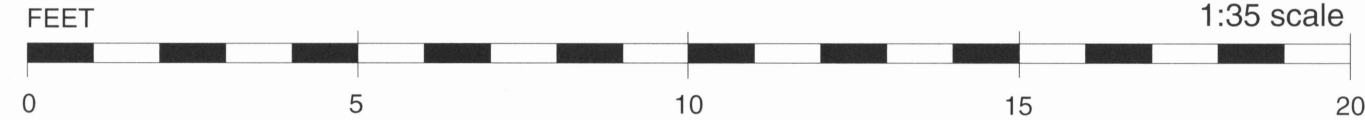
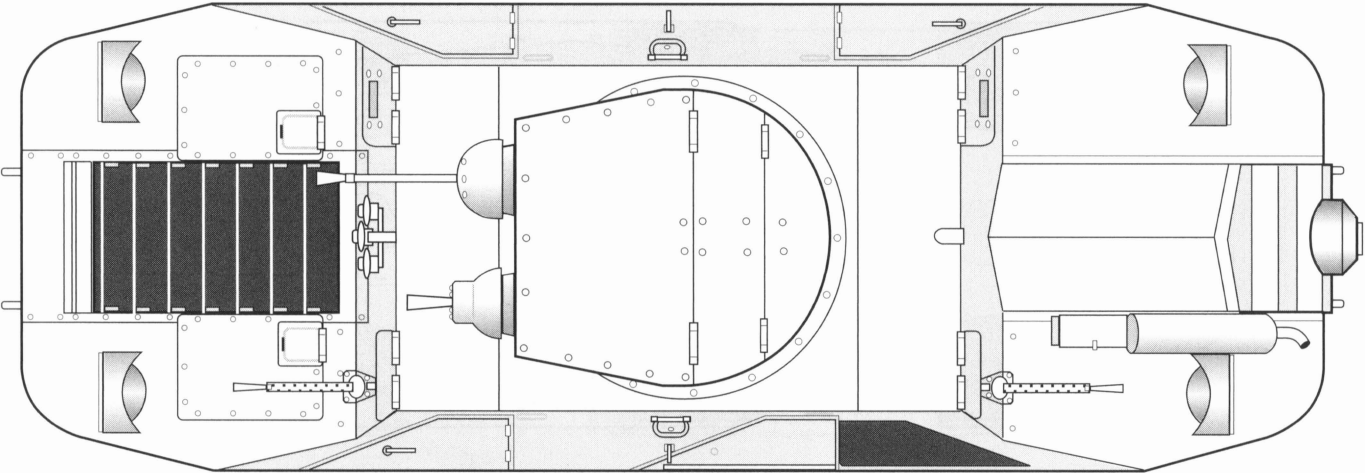




**Polizei-Panzerkampfwagen**  
**ADGZ**



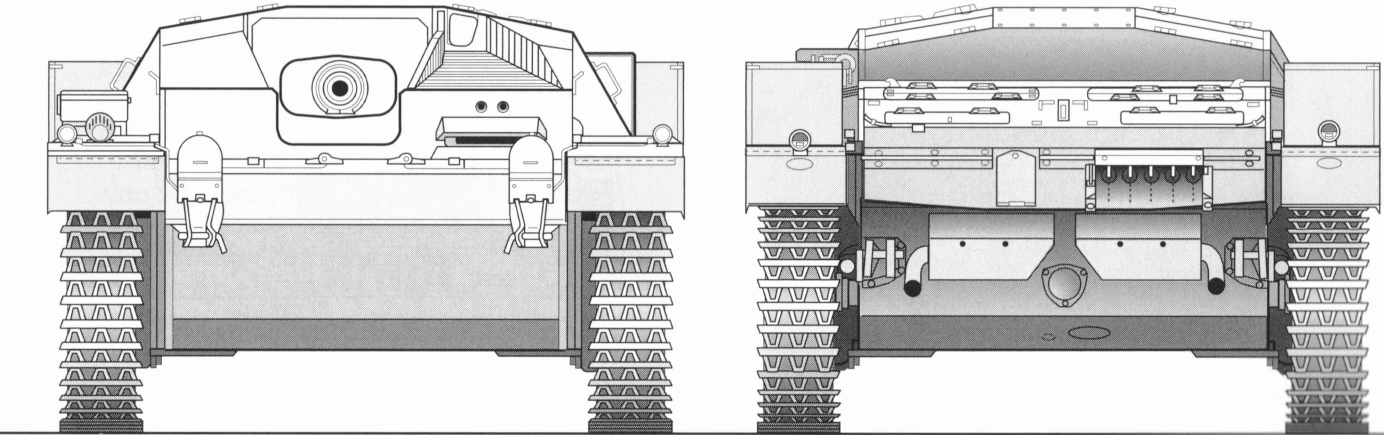
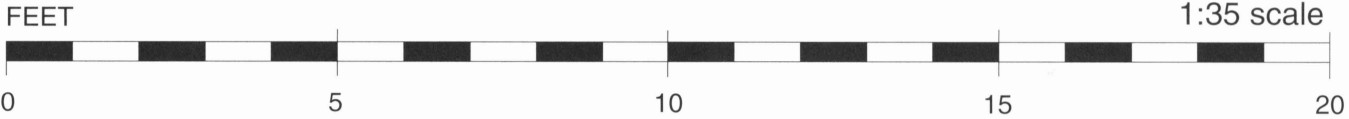
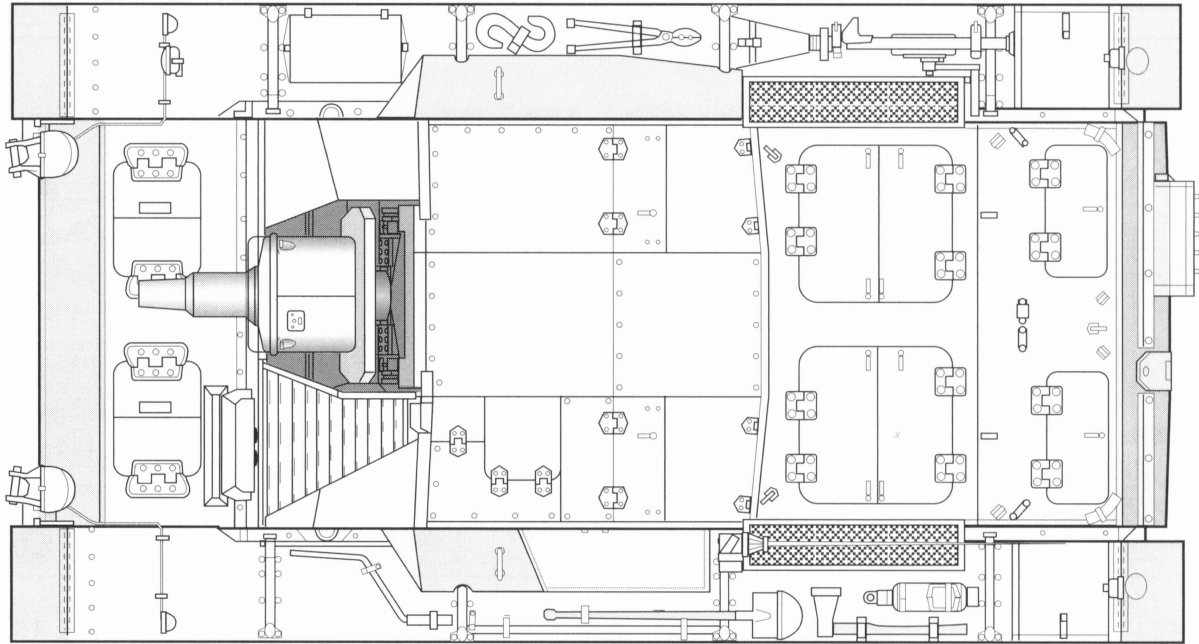
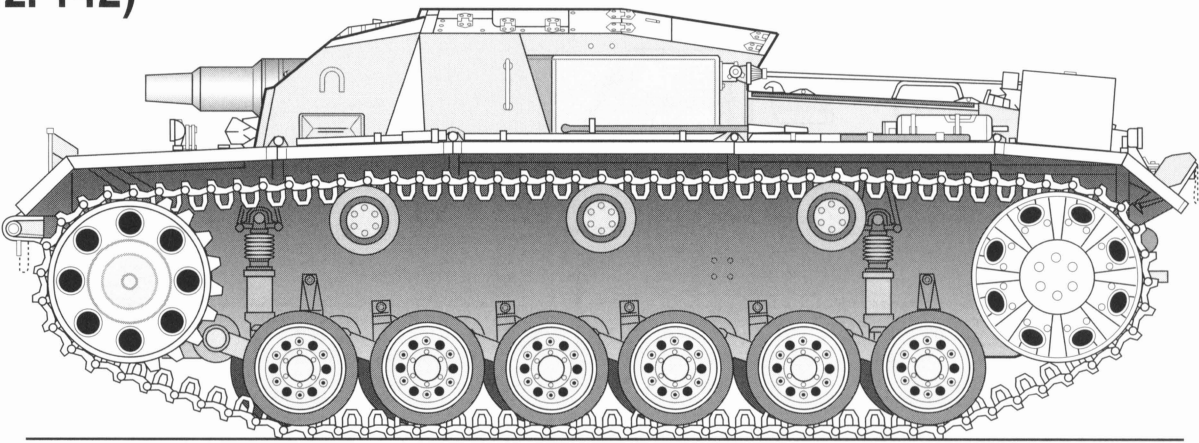
The rear door is shown here with its top half open. The top portion of the 2-part door is hinged forward, and the lower half was hinged rearward. The front doors are just the opposite.



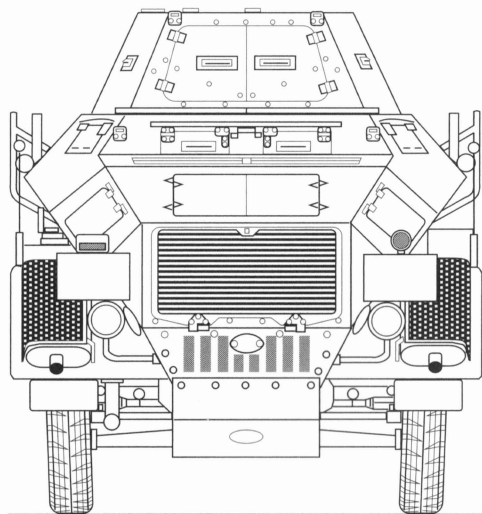
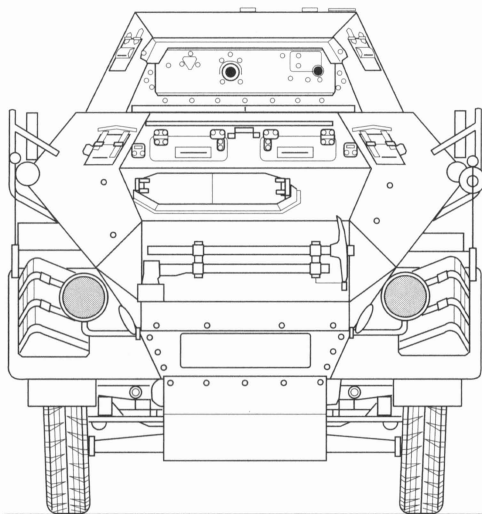
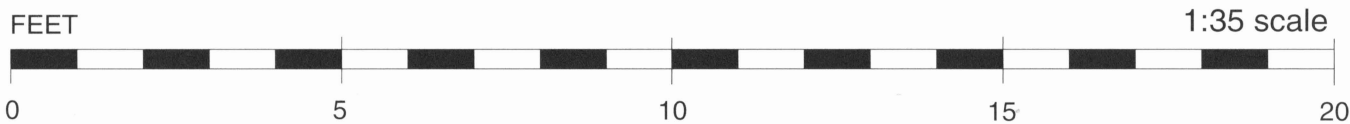
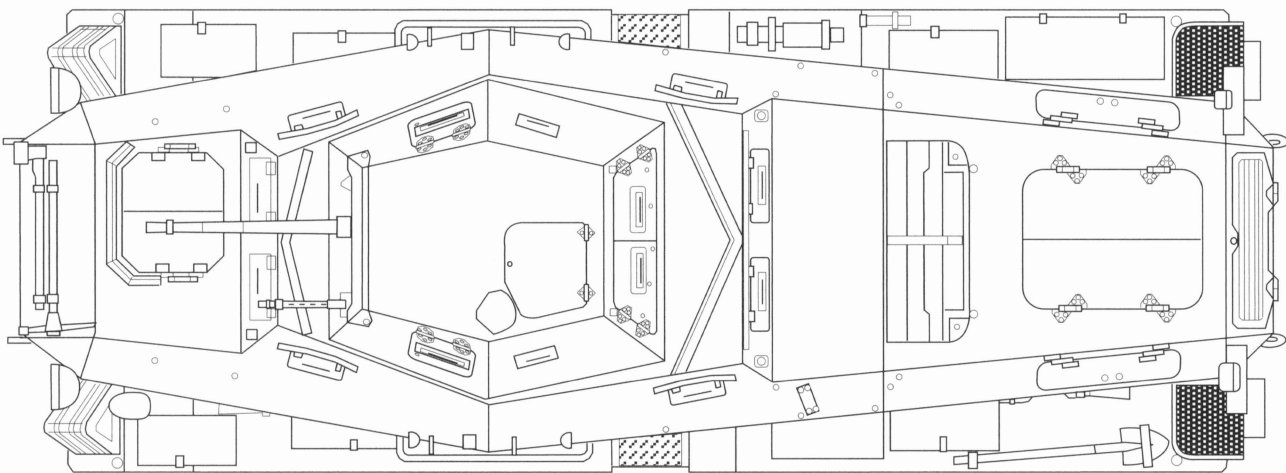
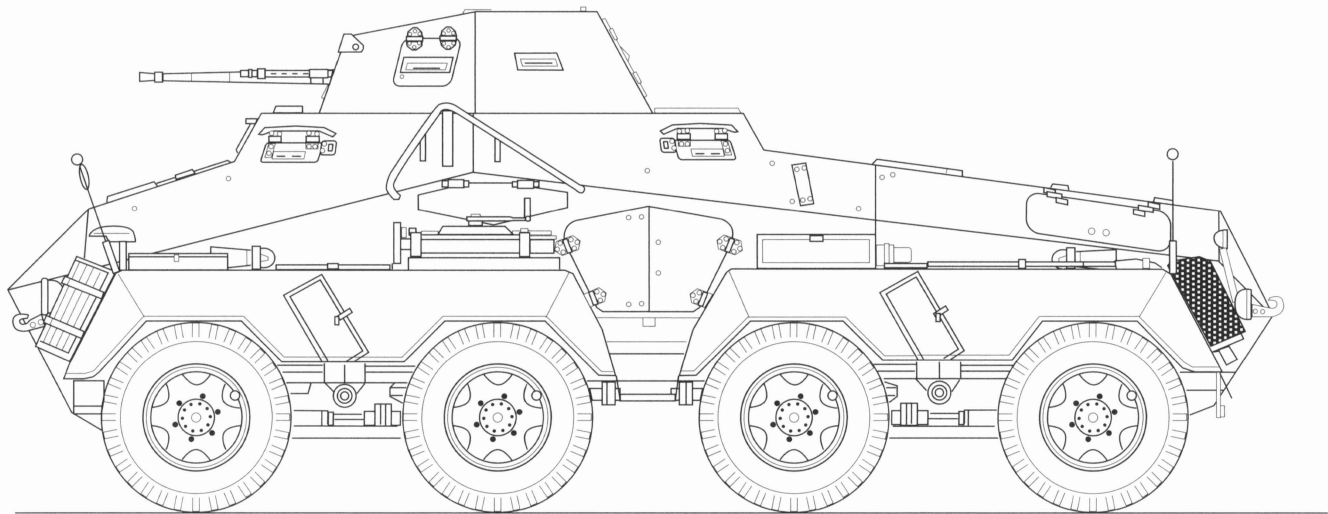
By the mid 1930's the Austrian firm Austro-Daimler-Puch had designed several armored cars. After Austria was annexed, Germany took an interest in the ADGZ heavy armored cars, and selected 14 of them for SS-police duties in the Danzig area in September 1939. They were designated as Polizei-PzKpfw. ADGZ.

A total of 27 of these armored cars had been built for the Austrian Army originally, but the SS-police crews liked them so much that by early 1942 another 25 had been ordered. Some of these ended up in Yugoslavia where they were used by SS troops in the anti-partisan role.

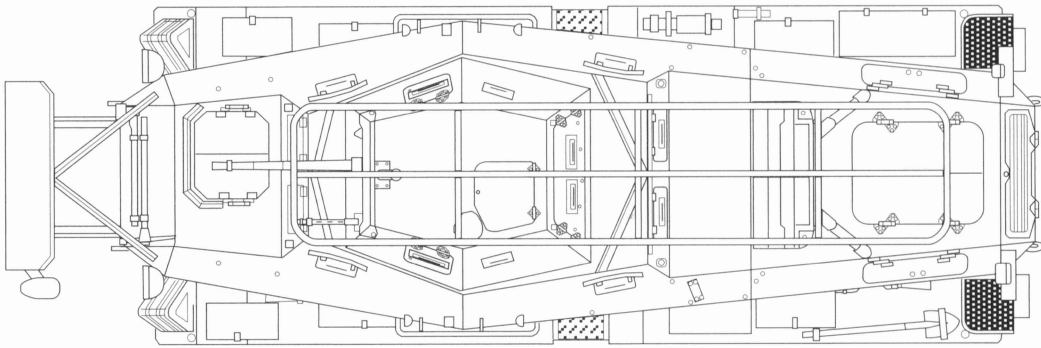
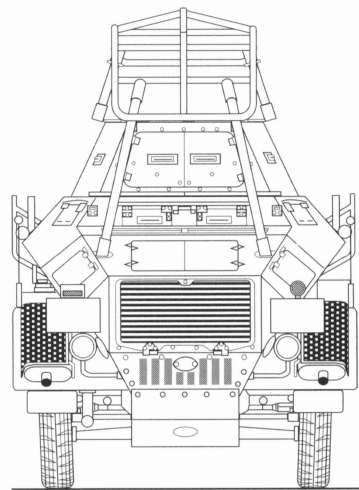
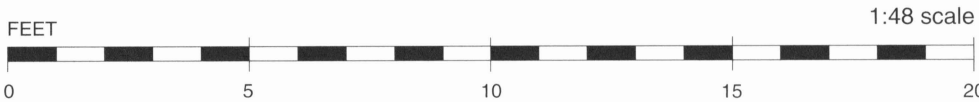
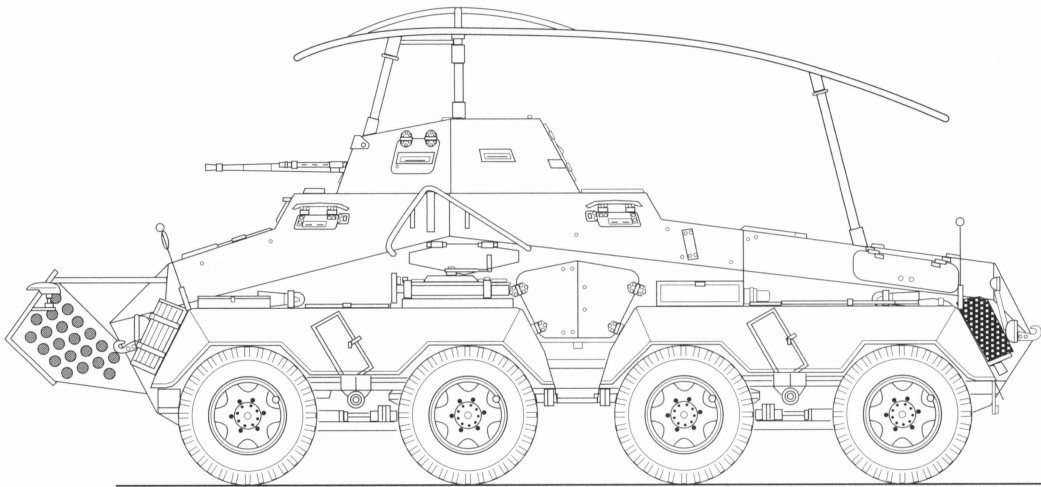
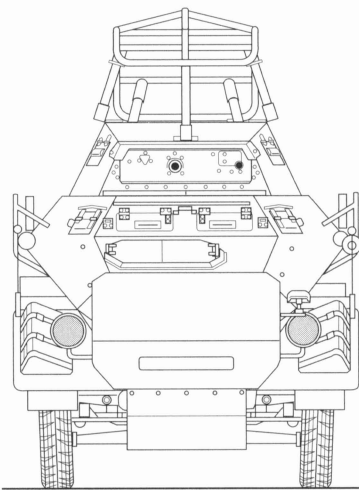
**StuG III Ausf. A (1940)**  
**(Sd.Kfz. 142)**



Schwerer Panzerspähwagen  
(Sd.Kfz. 231) 8-Rad



Schwerer Panzerspähwagen  
(Sd.Kfz. 232) (Fu) 8-Rad



The early Sd.Kfz. 231 was built on a commercial 6 x 4 chassis and proved to have very poor off-road performance. In 1933 the Germans, ignoring the terms of the Versailles Treaty, began serious military planning, and by 1937 a greatly improved 8 x 8 version of the Sd.Kfz. 231 armored car was coming off the production lines.

This was a heavy 8 ton 4-man armored car with a 2 cm KwK30 cannon and an MG34, fired by foot pedals, and mounted coaxially in a fully revolving turret. On open ground they could achieve a top speed of 85 km/h and had a travelling range of 270 km.

The Sd.Kfz. 232 shown in these drawings was the radio or "funkwagen" version of the 231 8-rad and was fitted with medium range radio equipment and a large frame aerial. The center post on the top of the turret had a bearing ring which still allowed full traverse of the turret.

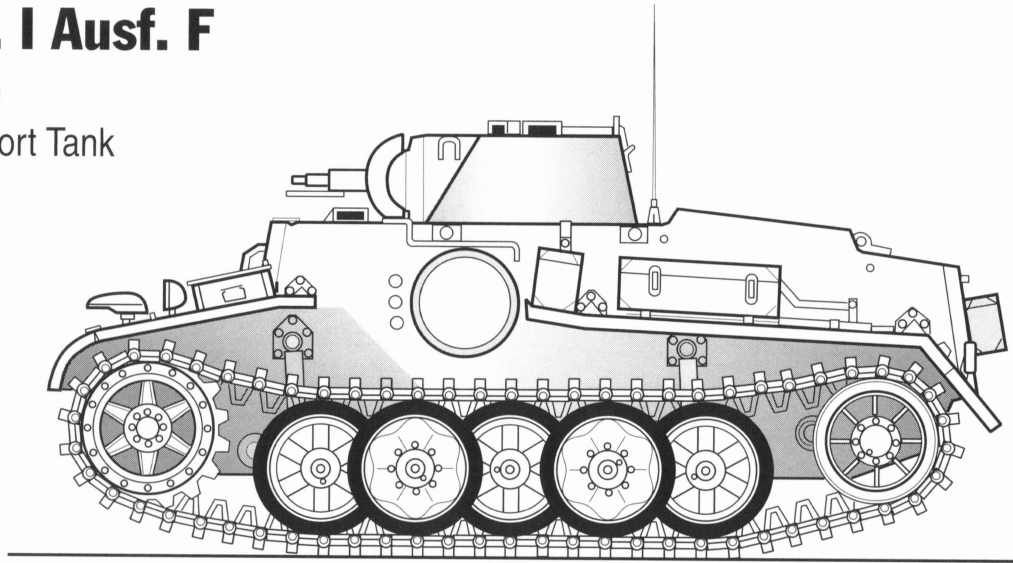
It is also fitted with the "pakschutze" additional armor on the front, which was also used for stowage, and intended to increase frontal armor protection.



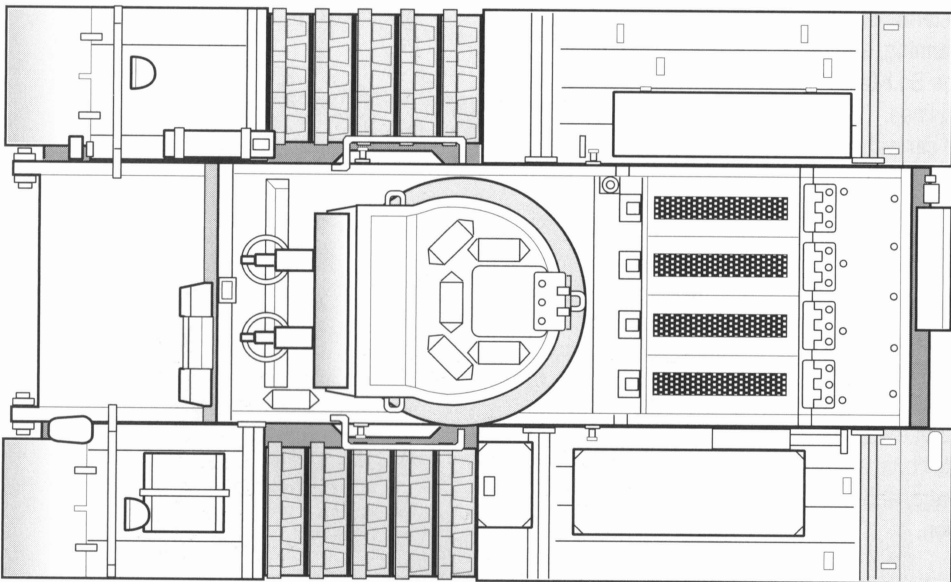
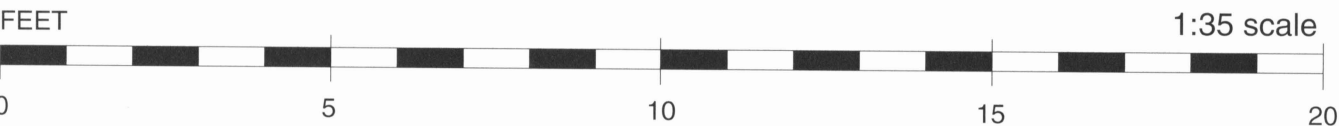
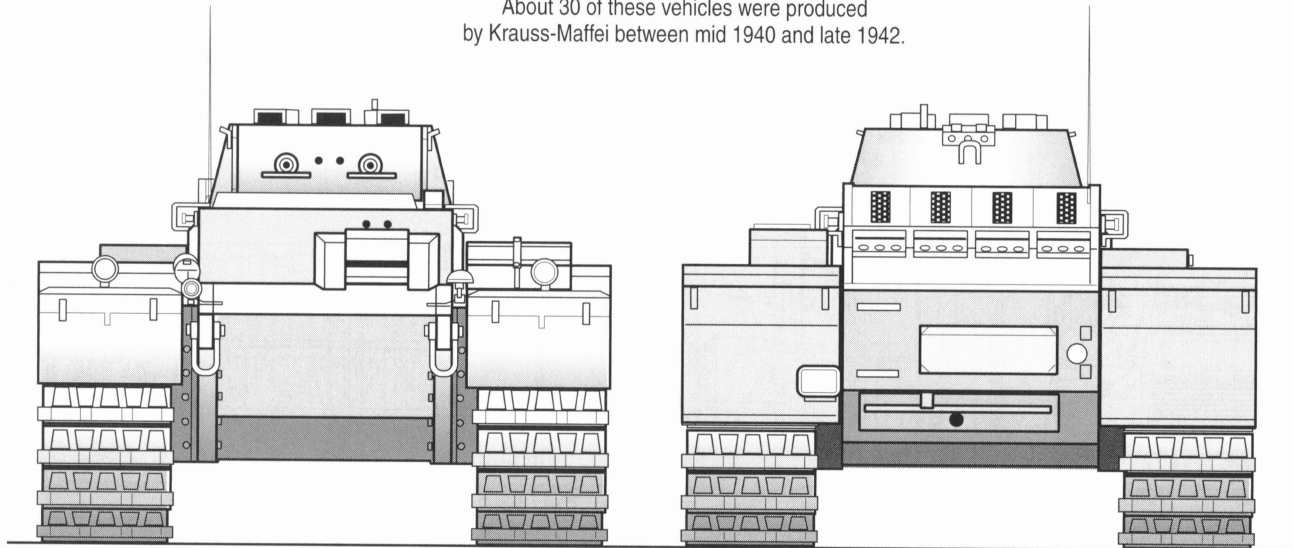


**Pz.Kpfw. I Ausf. F**  
**(VK 1801)**

Infantry Support Tank



About 30 of these vehicles were produced by Krauss-Maffei between mid 1940 and late 1942.

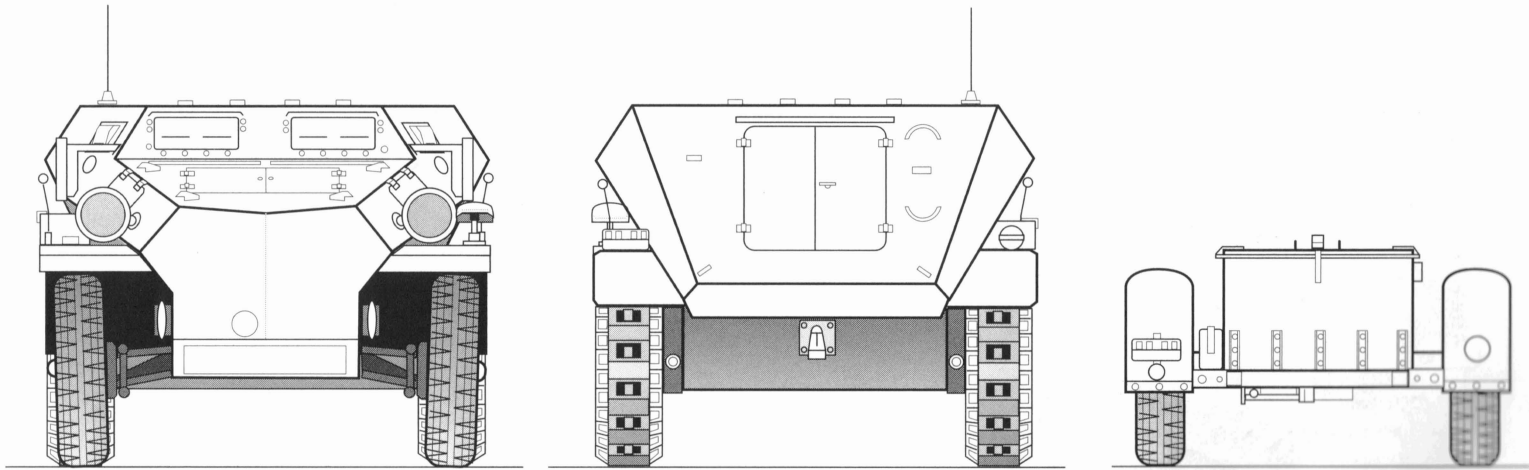
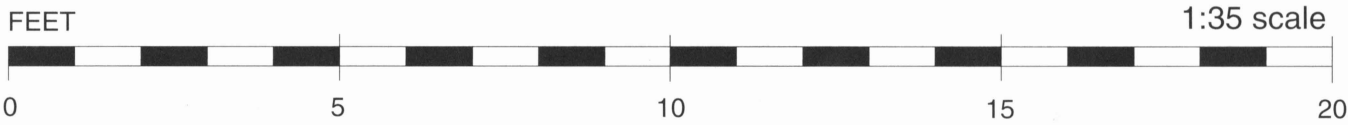
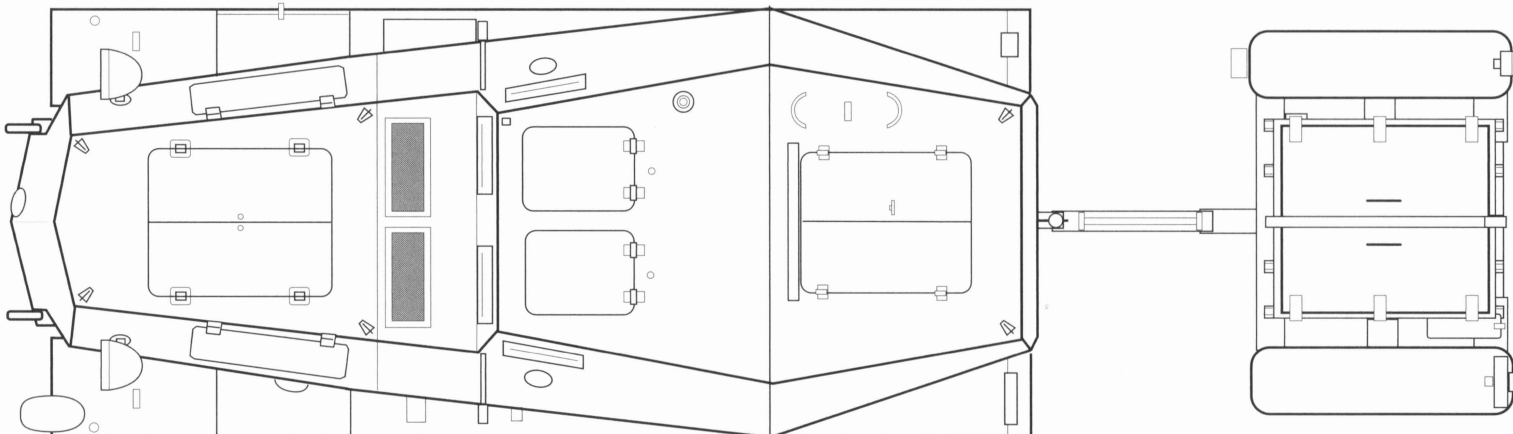
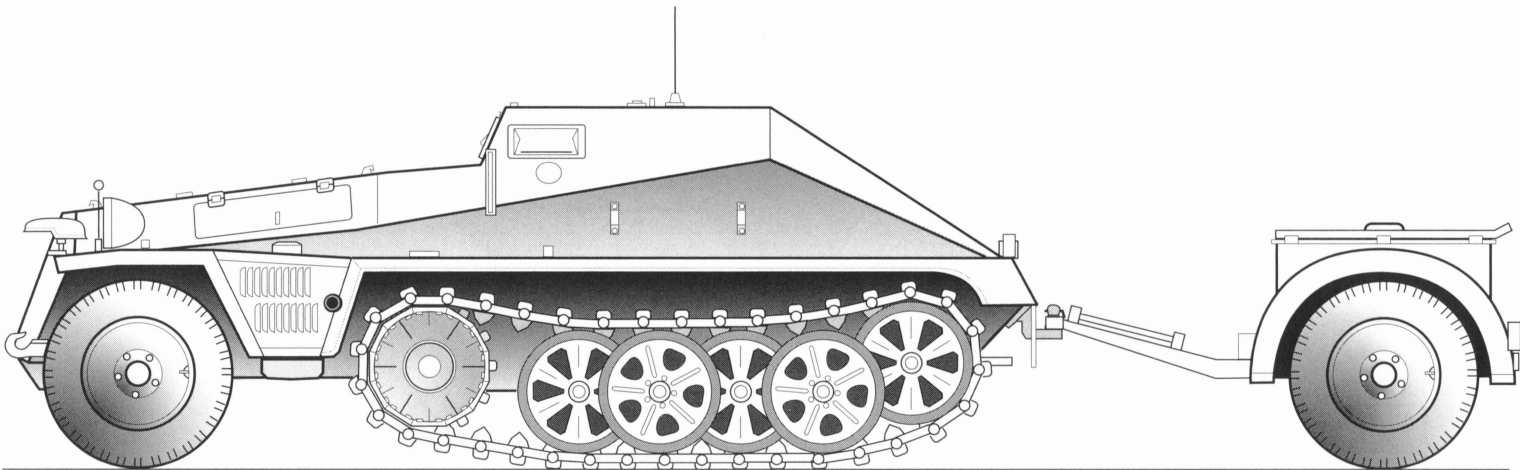


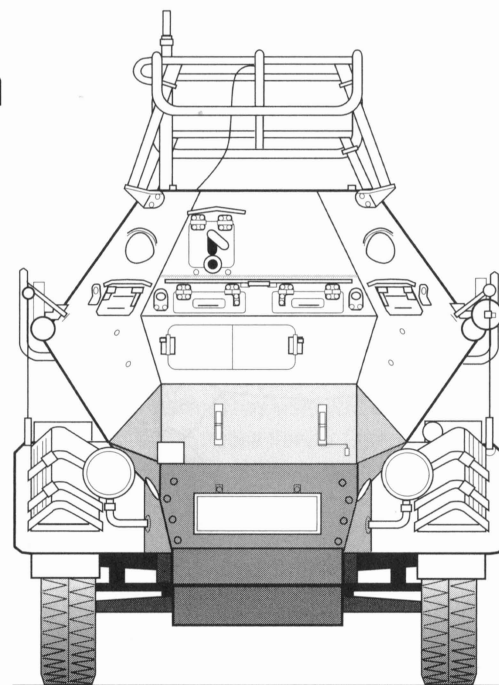
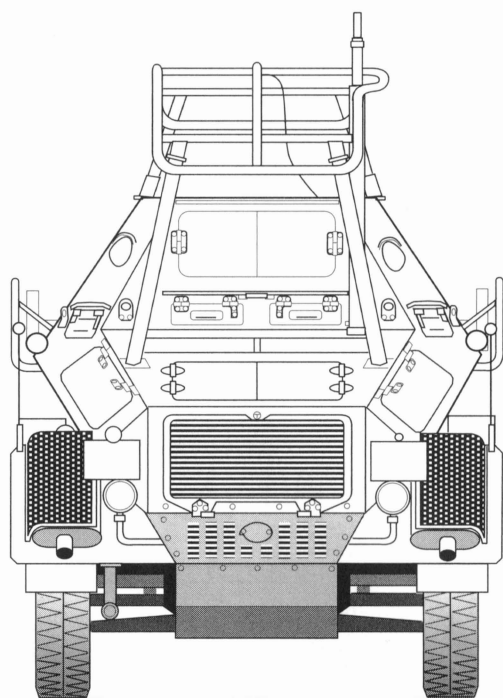
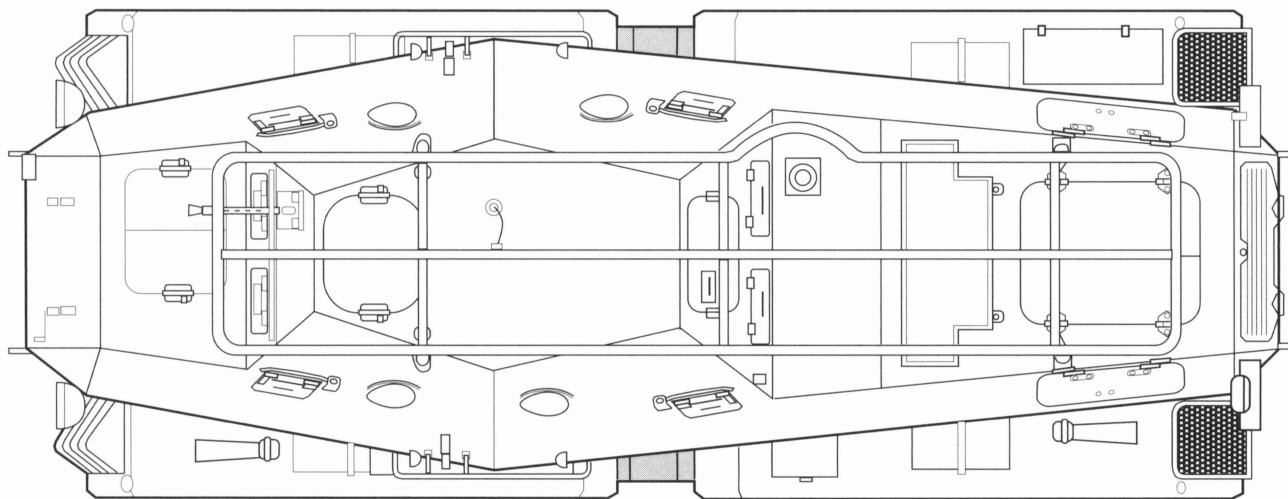
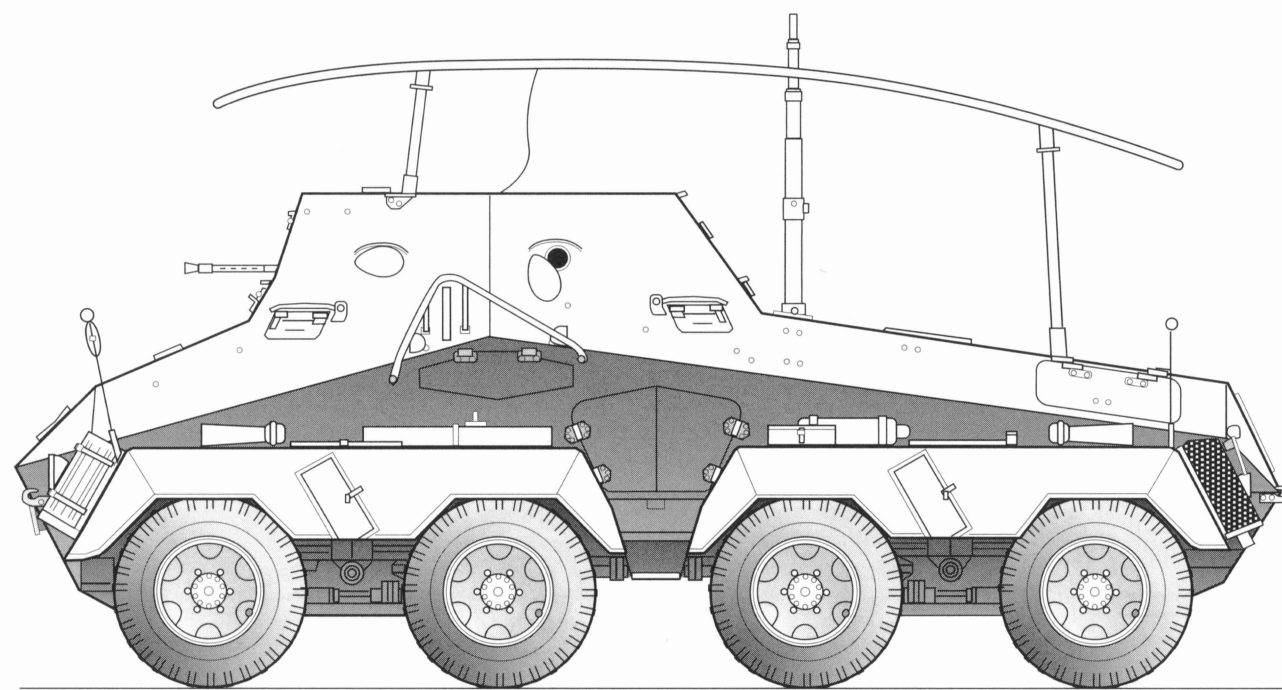
Initially designed for use as infantry support against the Maginot Line, this design fell out of favor, and most of them ended up as training vehicles. However, during the preparations for "Operation Herkules", the proposed invasion of Malta, five VK 1801s, along with various other armored vehicles were assembled at the Panzer Lehr Regiment base in Wündsdorf near Berlin. They were part of the 66th Special Purpose Panzer Company to be landed north of Kalafrana in the Bay of Marsaxlokk.

There is also mention of eight VK1801s being issued to 1st Panzer Division early in 1943 and being sent to Russia for combat evaluation that summer.

**Leichter Gepanzerter**  
**Munitionskraftwagen (Sd.Kfz. 252)**

(Semi-Track Light Armored Munitions Carrier)

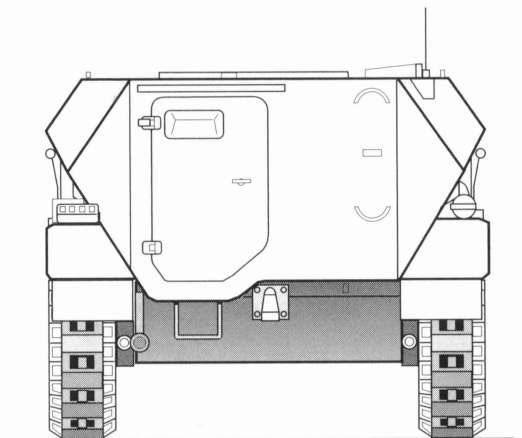
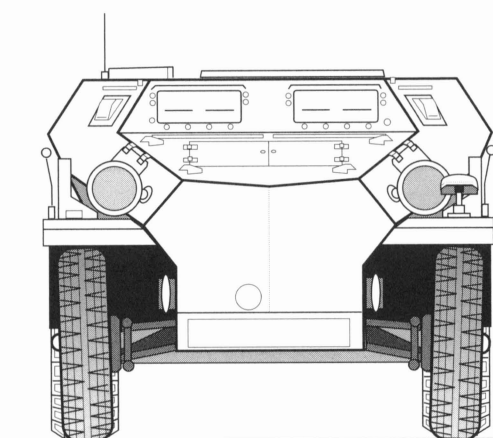
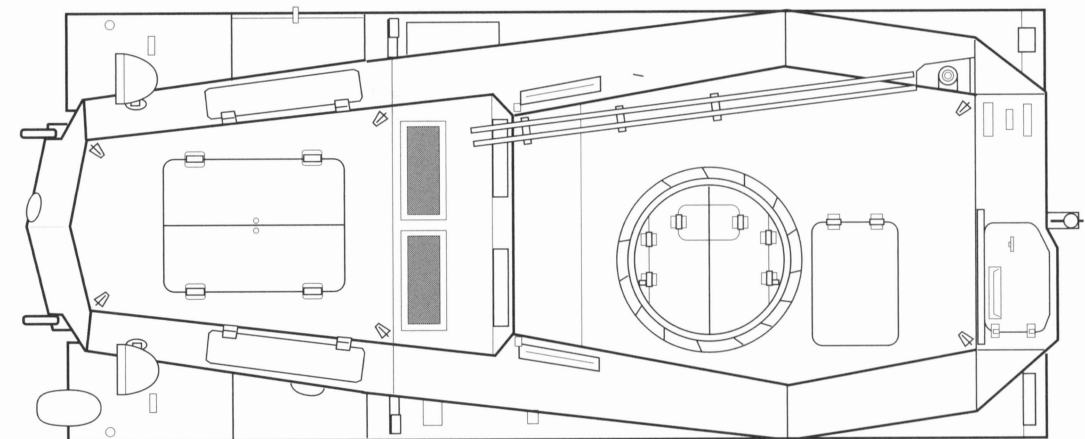
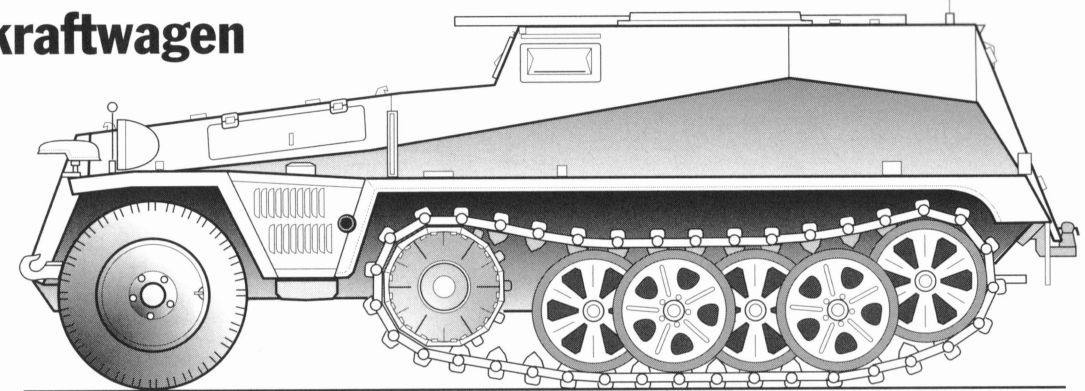




**Panzerfunkwagen  
(Sd.Kfz. 263)  
8-Rad**

## Leichter Gepanzerter Beobachtungskraftwagen (Sd.Kfz. 253)

Semi-Track  
Light Armored  
Observation Post



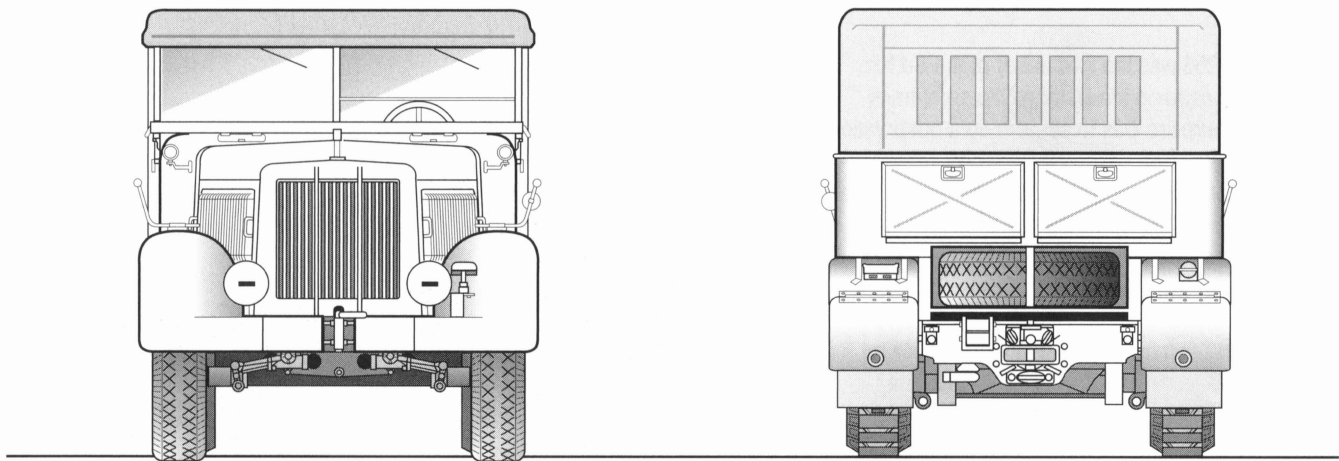
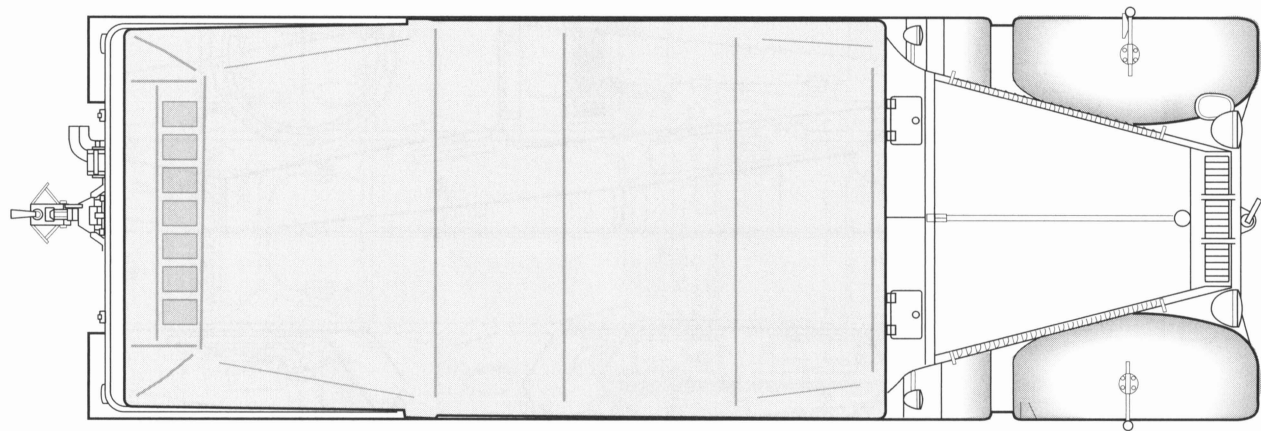
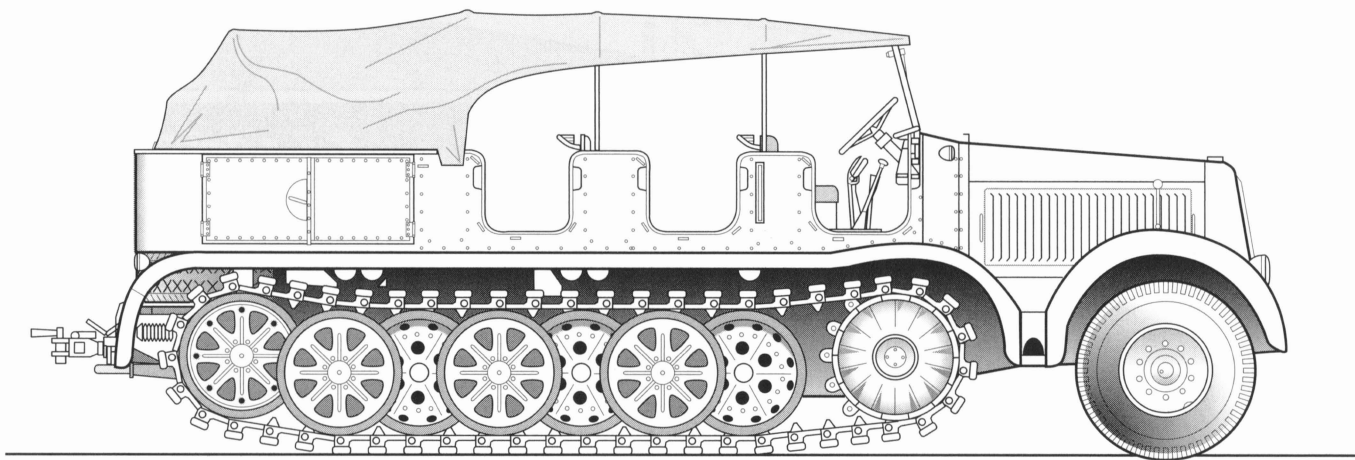
The Sd.Kfz. 253 was the forerunner of the Sd.Kfz. 250 series, based on the Demag D7p semi-track chassis. Its purpose was to act as a light observation post for the new Sturmartillerie Batterien. Observation was done from a large circular split hatch in the roof plate. However, manufacturing problems were experienced and it was eventually replaced in the field by the standard Sd.Kfz. 250.

An Sd.Kfz. 253 that made its way to North Africa to serve with the Afrika Korps, but was unfortunate enough to be lost in the heavy fighting there. This vehicle has an armored roof where the half-open circular hatch is visible.

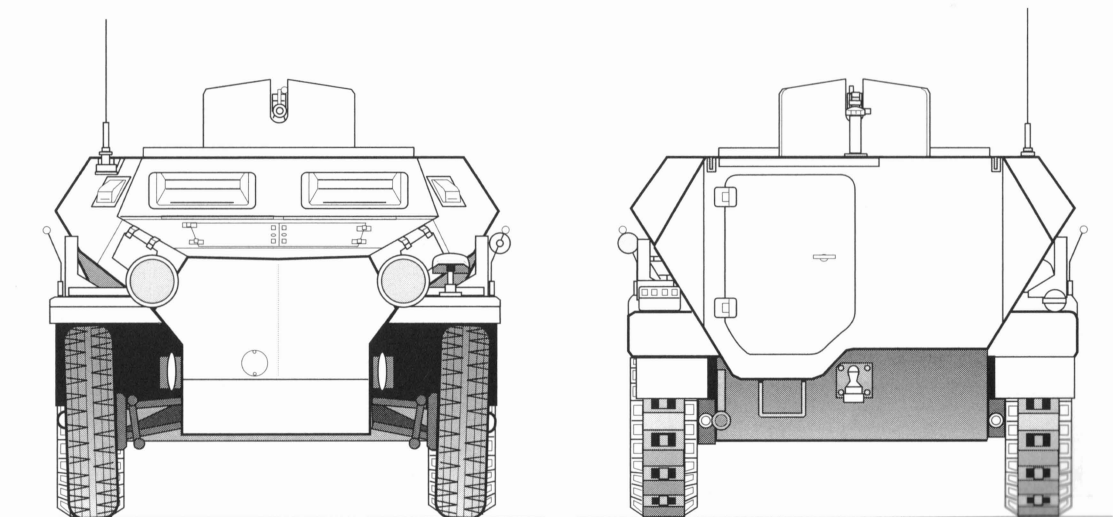
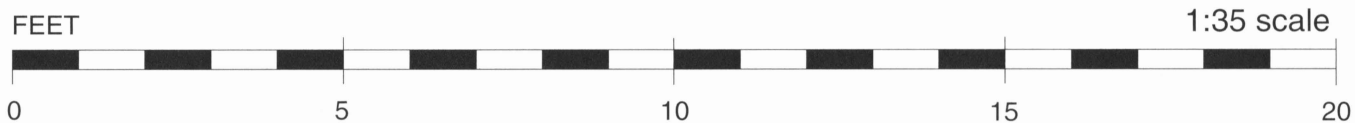
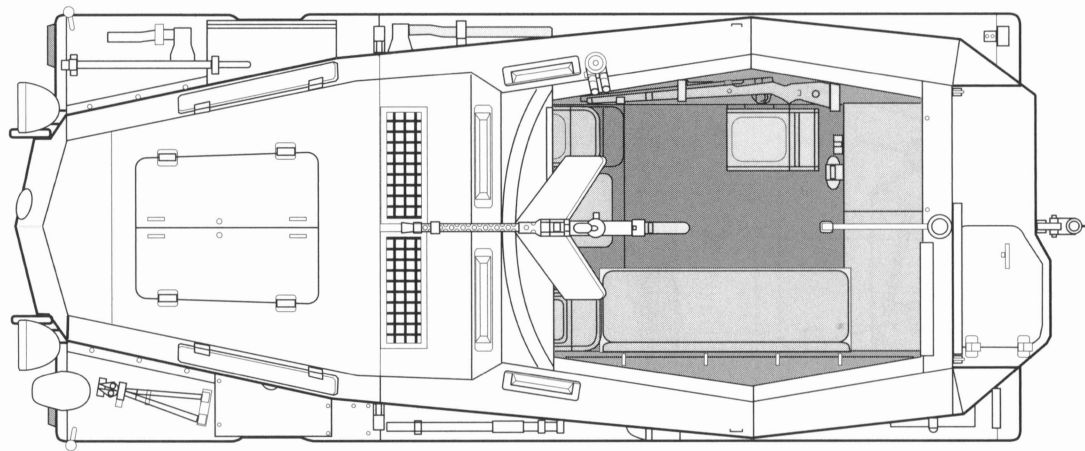
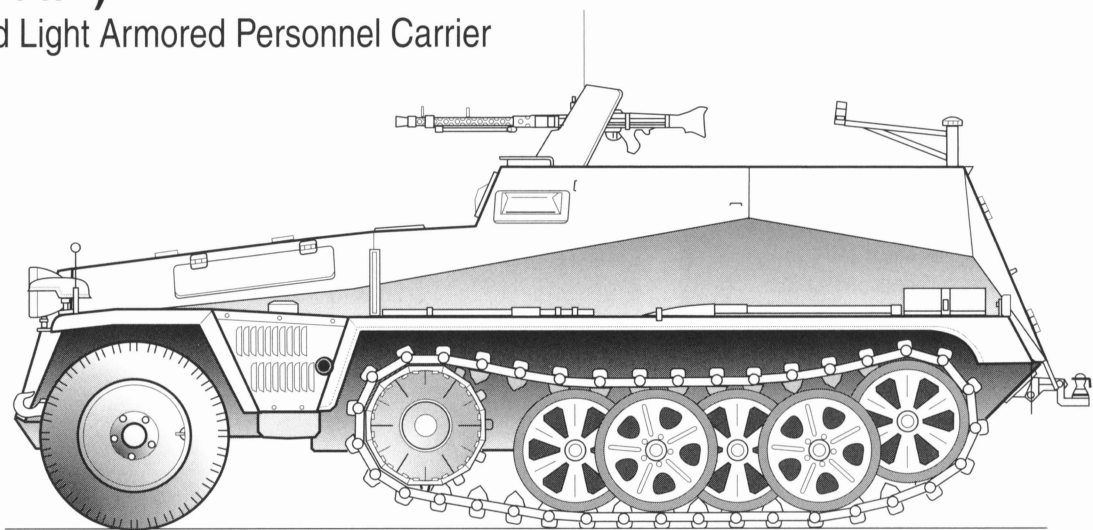




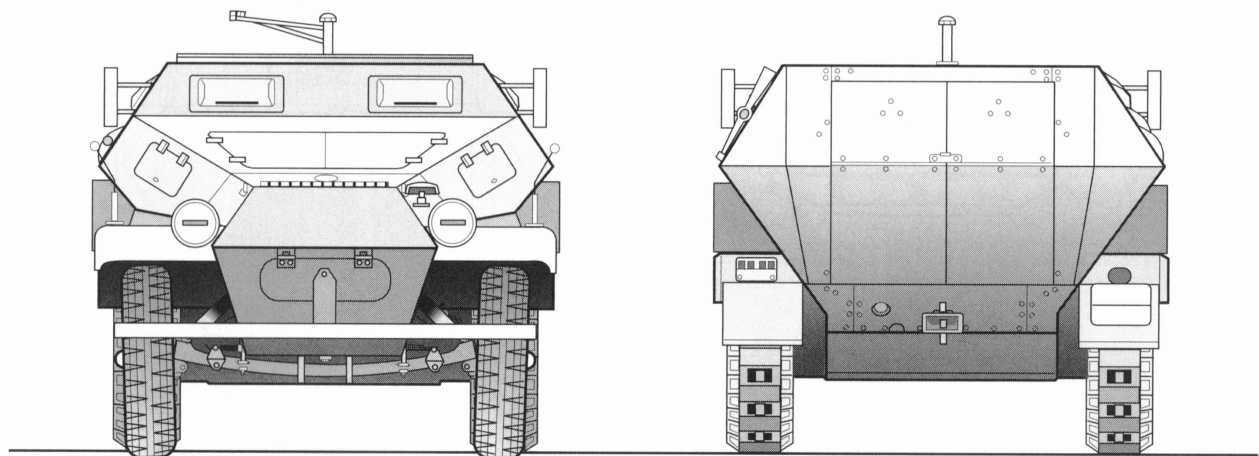
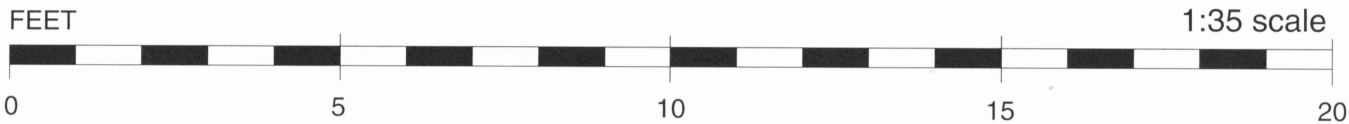
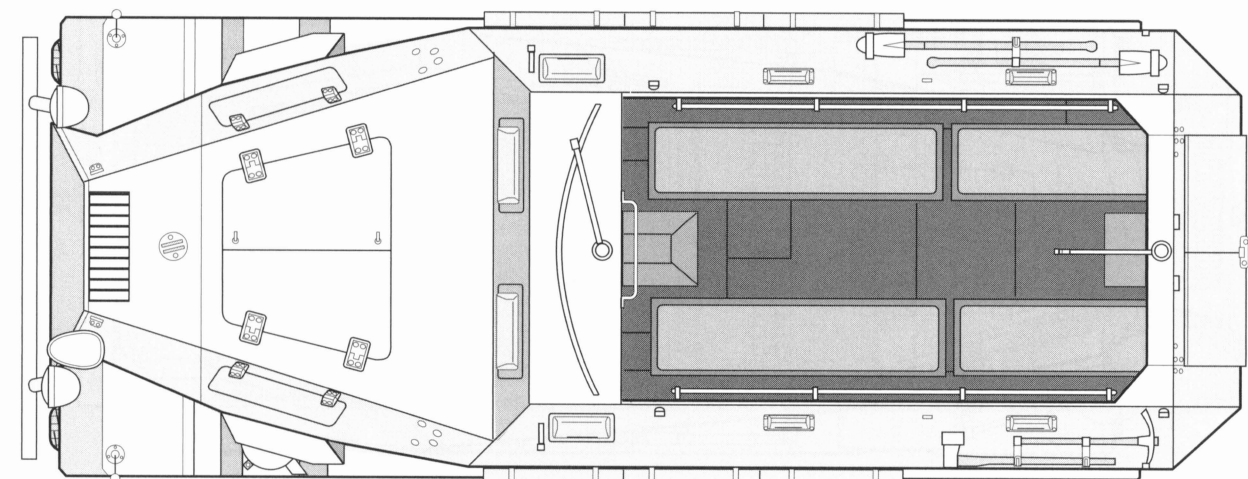
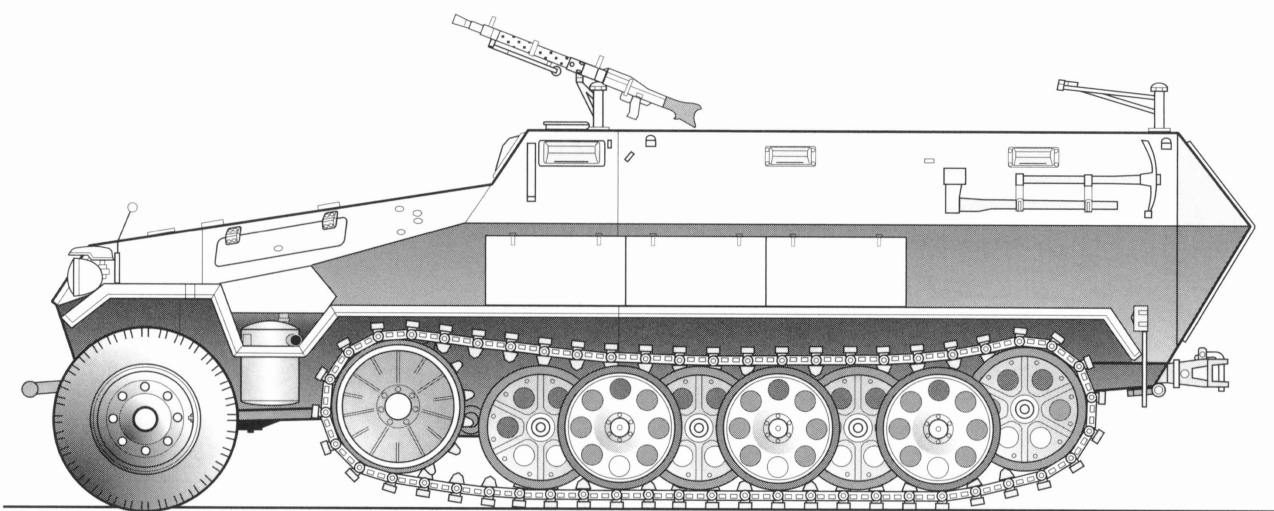
Schwerer Zugkraftwagen 12t  
(Sd.Kfz. 8) DB 10



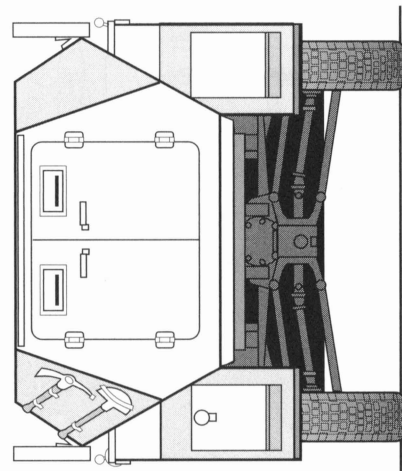
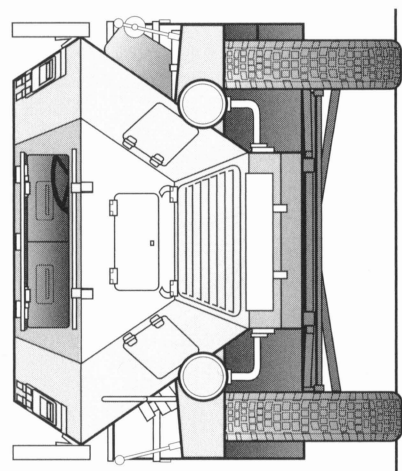
Leichter Schützenpanzerwagen  
(Sd.Kfz. 250/1)  
Semi-Tracked Light Armored Personnel Carrier



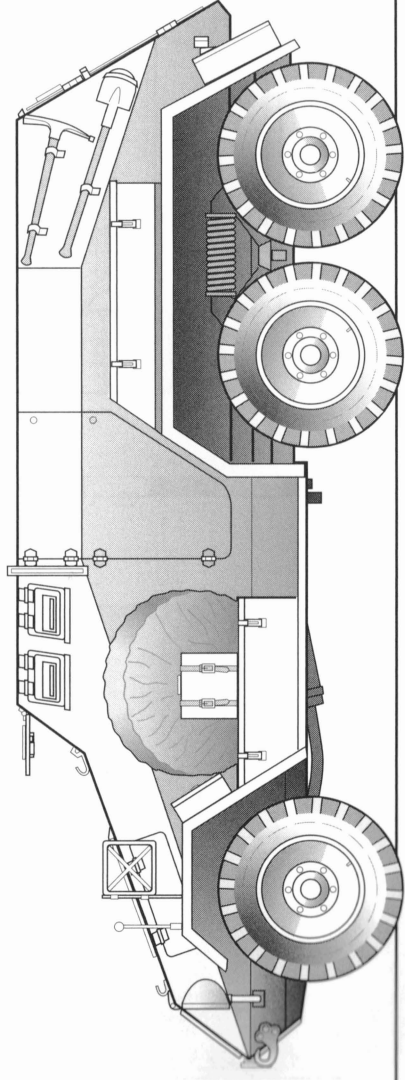
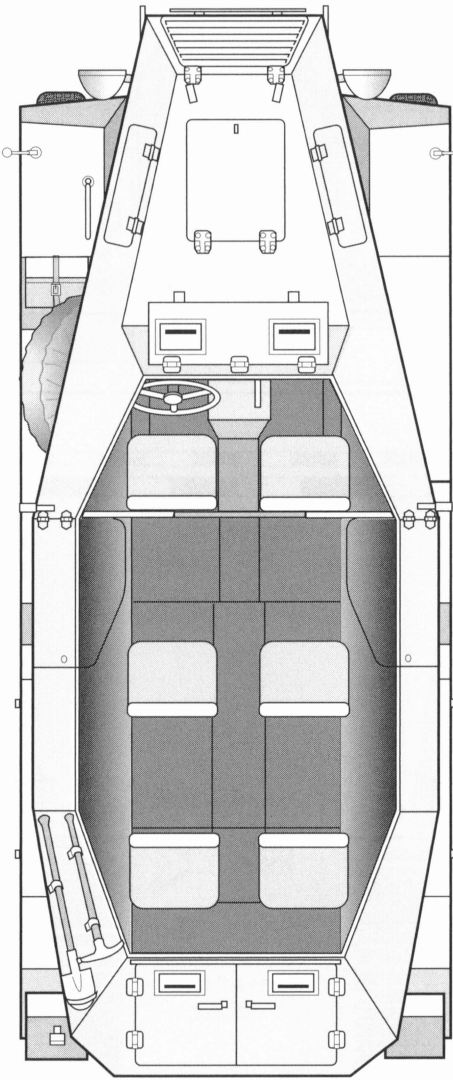
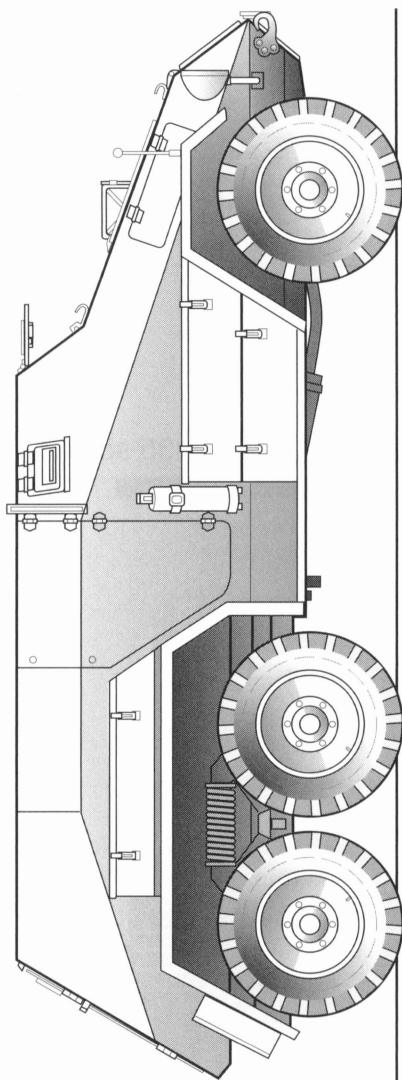
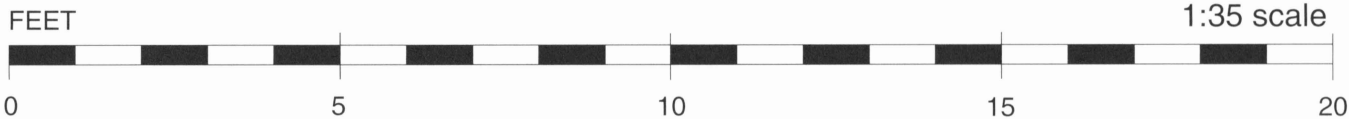
Mittlerer Schützenpanzerwagen Ausf. A  
(Sd.Kfz. 251/1)



Sd.Kfz. 247 (6 Rad) s.gl.gp.Pkw

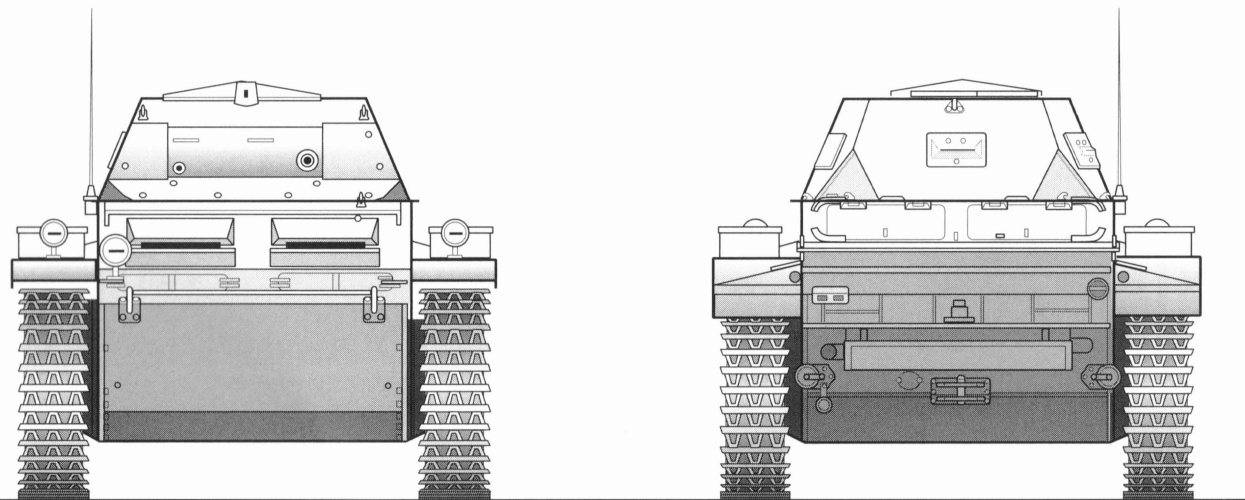
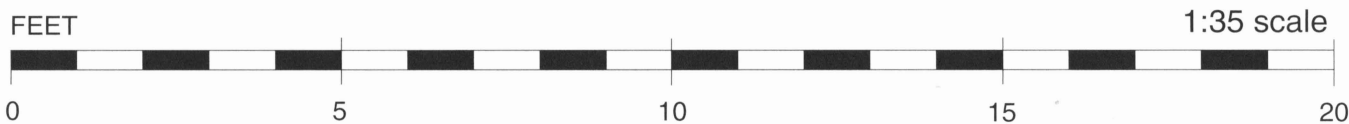
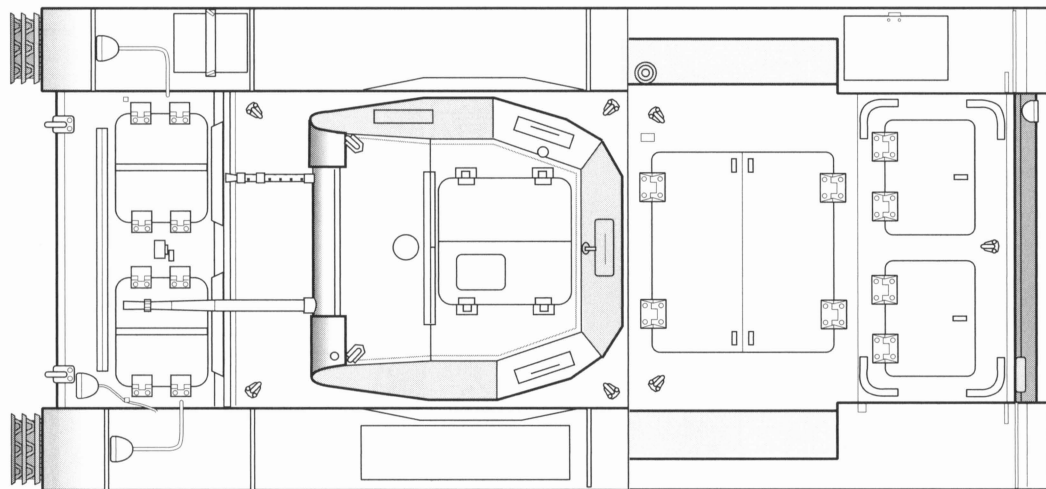
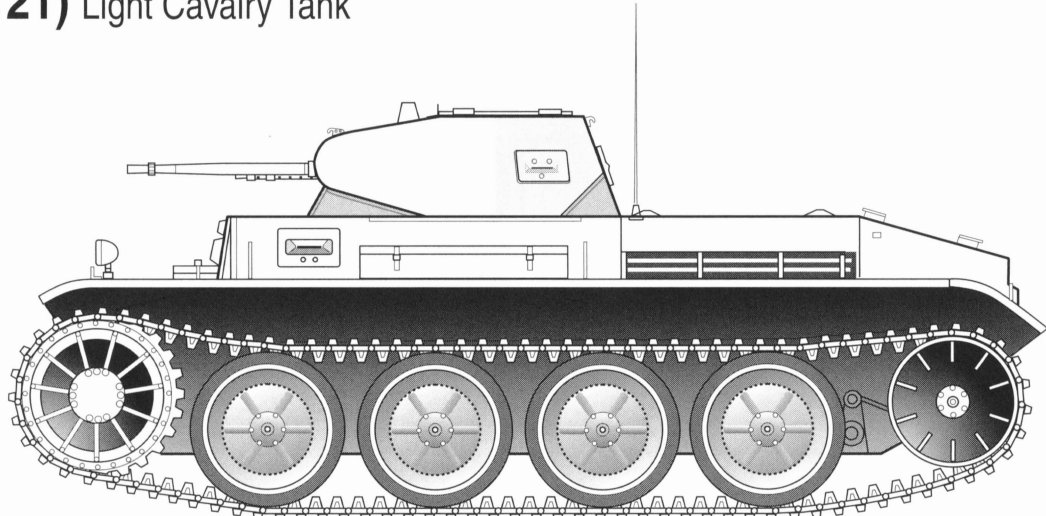


Designed as a heavy cross-country armored staff car, the early Sd.Kfz.247 was built on the Krupp L2H143 chassis. Production began in the 1937–38 period, but only ten of these vehicles had been built when production was halted because of their poor off-road performance. These were unarmed staff vehicles armored only to defeat 7.92mm S.m.K AP bullet penetration at ranges beyond 30 meters. They seated six men, including the driver and carried no radio equipment at that time, with communications mainly conducted by hand signals using flags. They were eventually replaced by the 4-wheeled version of the Sd.Kfz.247 from 1939–41, with a total production of 58.

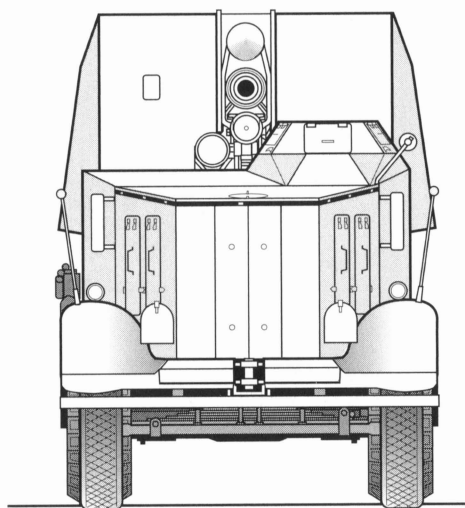
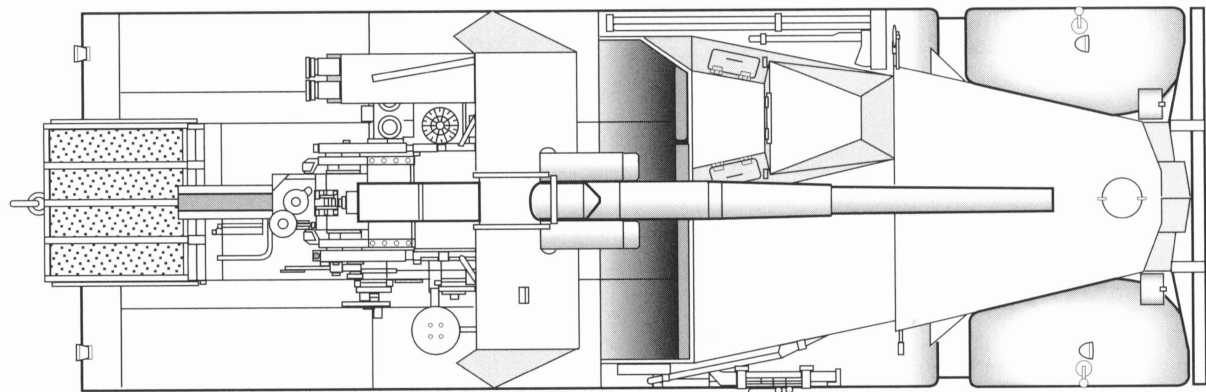
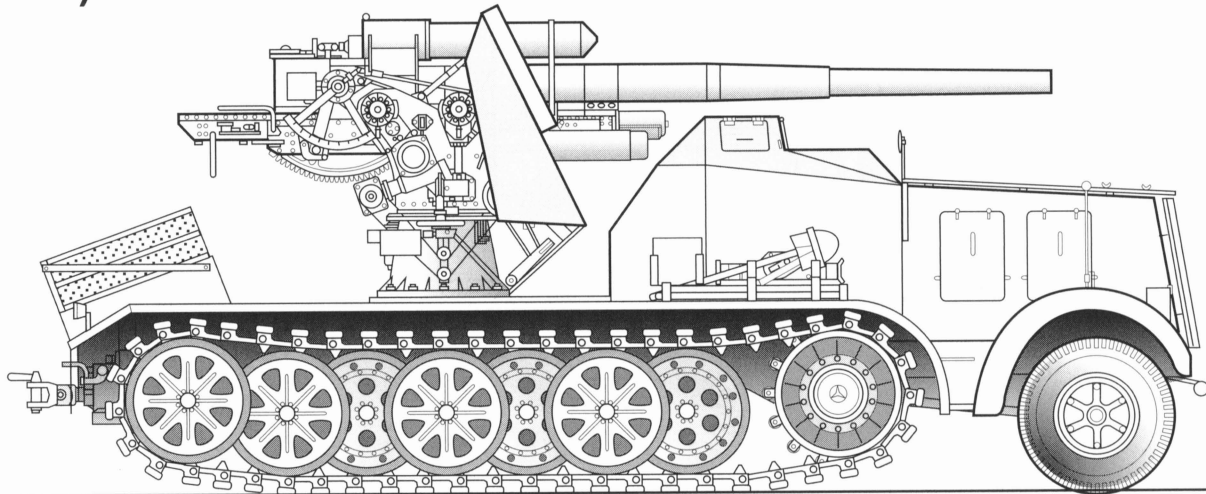




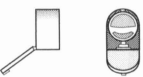
**Pz.Kpfw. II Ausf. D & E**  
(Sd.Kfz. 121) Light Cavalry Tank



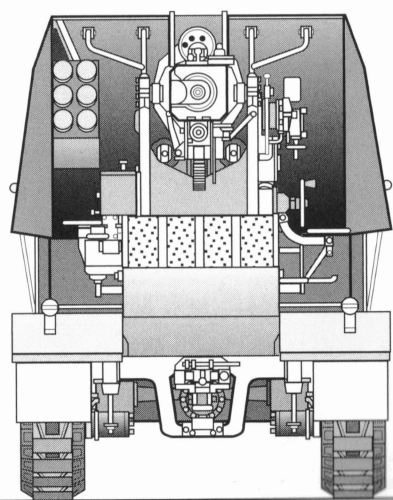
**88mm FlaK18(Sfl) auf Zugkraftwagen 12t**  
(Sd.Kfz. 8) DB9



SIDE & FRONT



Headlight shown with the protective flap in the open position.

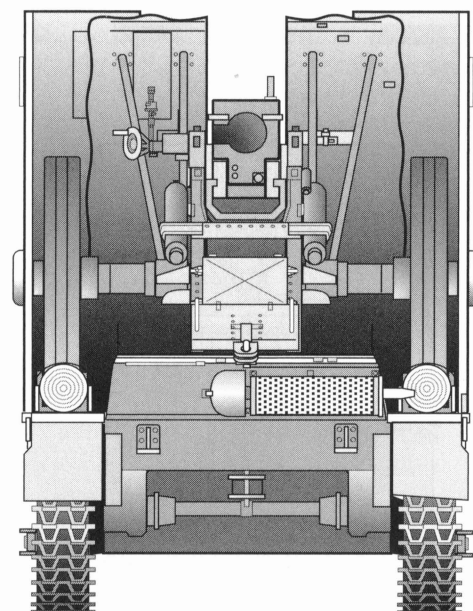
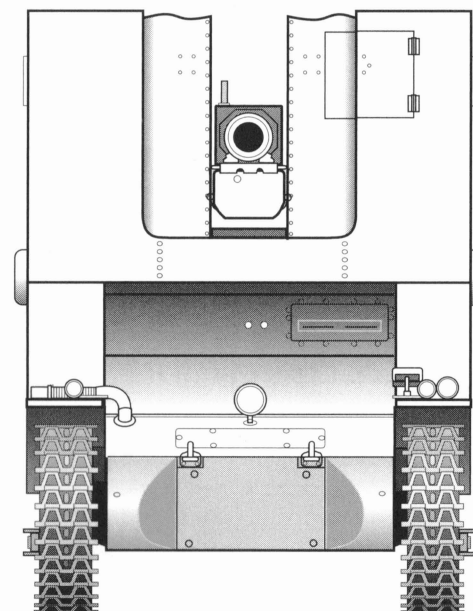
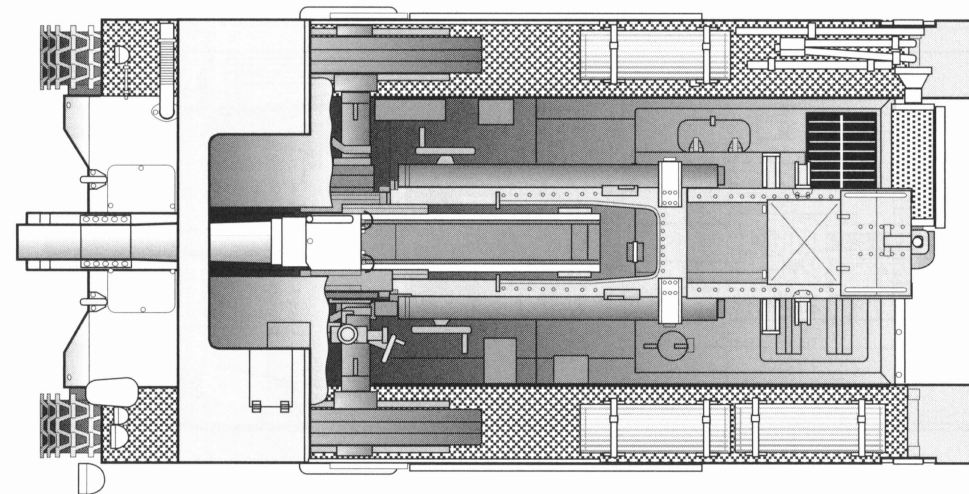
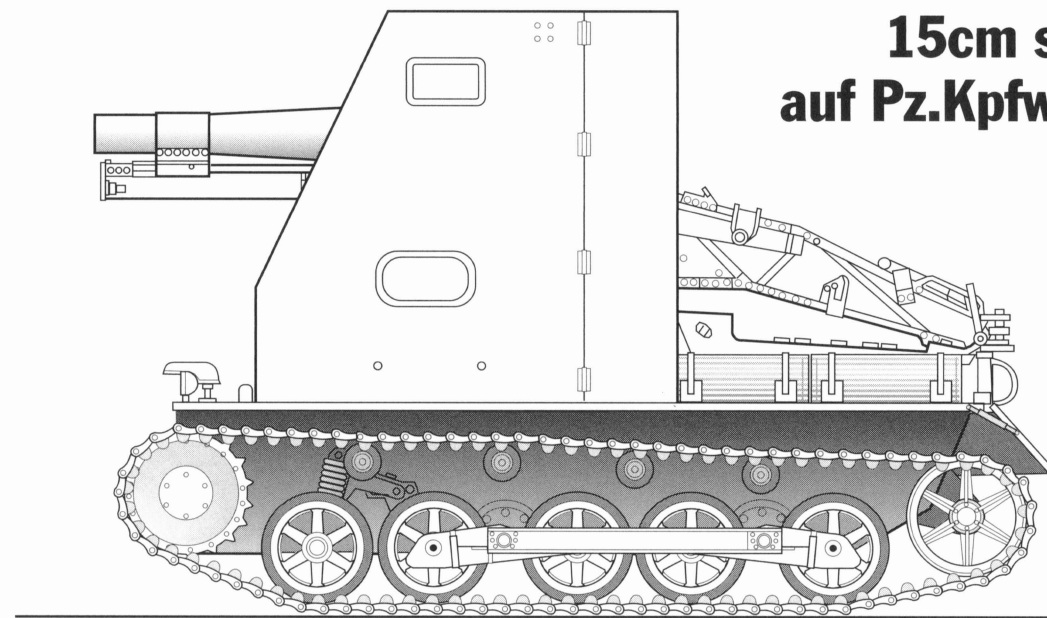


# **15cm sIG 33 (Sf) auf Pz.Kpfw. I Ausf. B**

1:35 scale

FEET

0 5 10 15 20

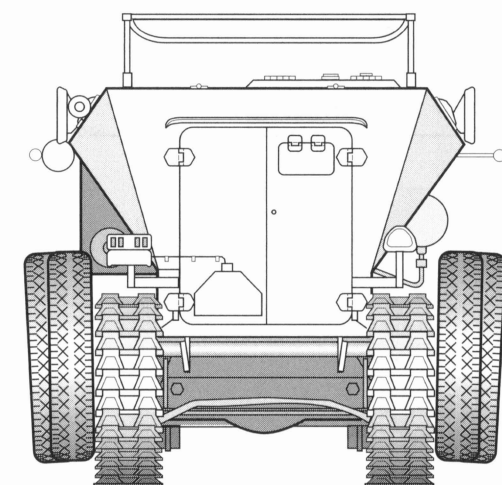
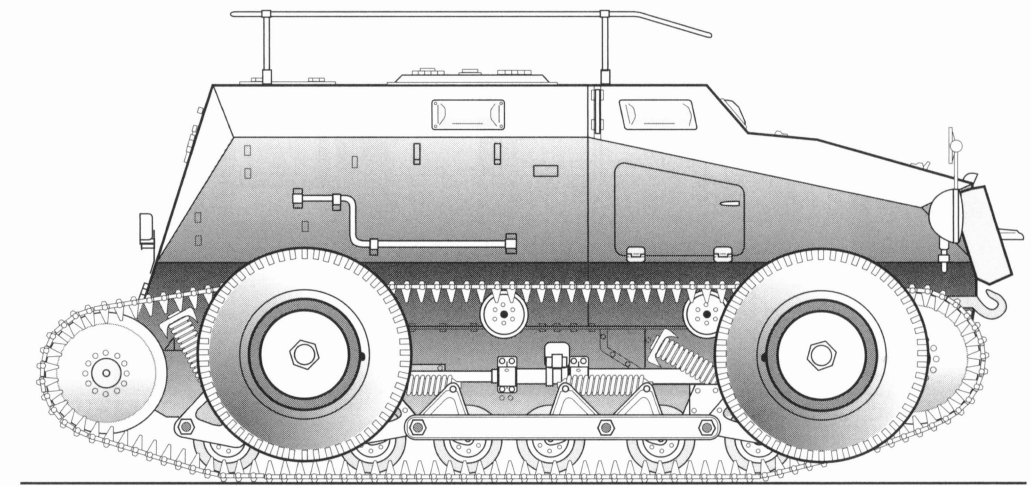
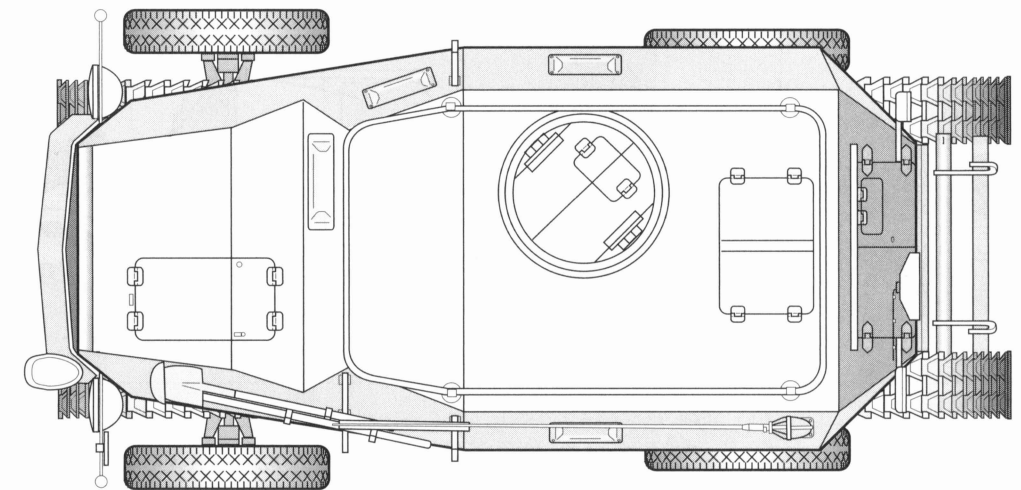


# **Saurer RK-7 (Sd.Kfz. 254) Mittlerer gepanzerter Beobachtungskraftwagen**

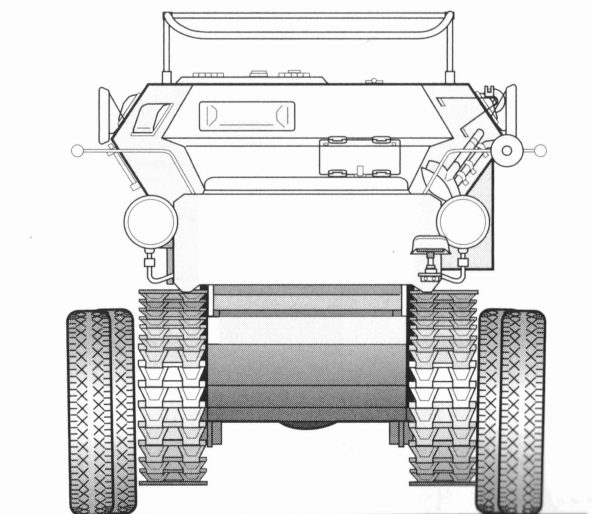
FEET

0 5 10 15 20

1:35 scale



View of vehicle with the wheels in the raised position.

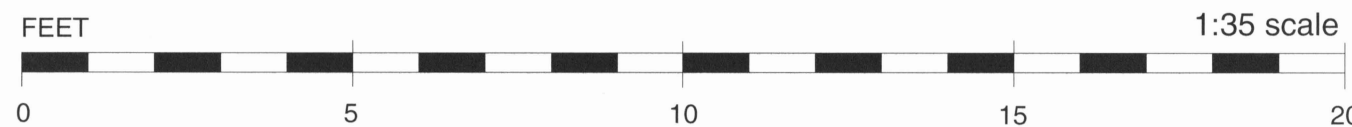
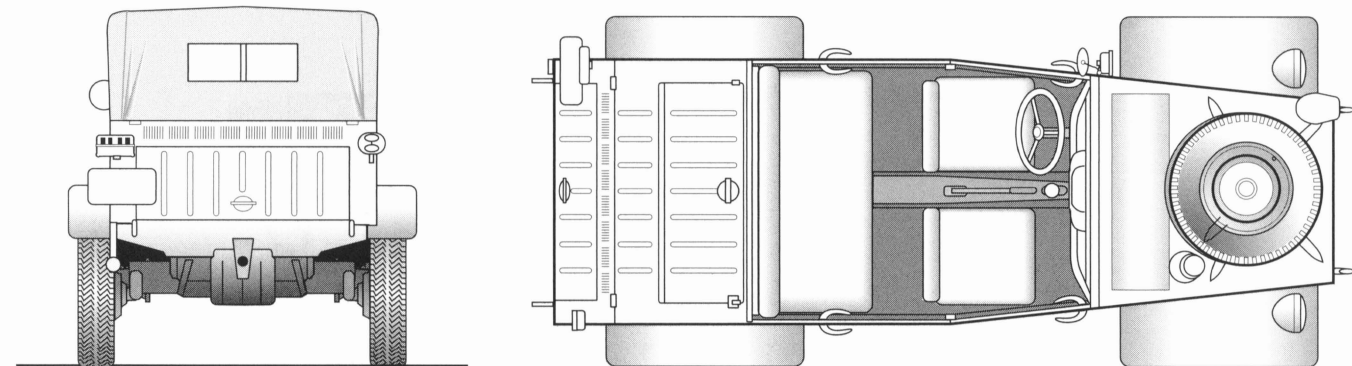
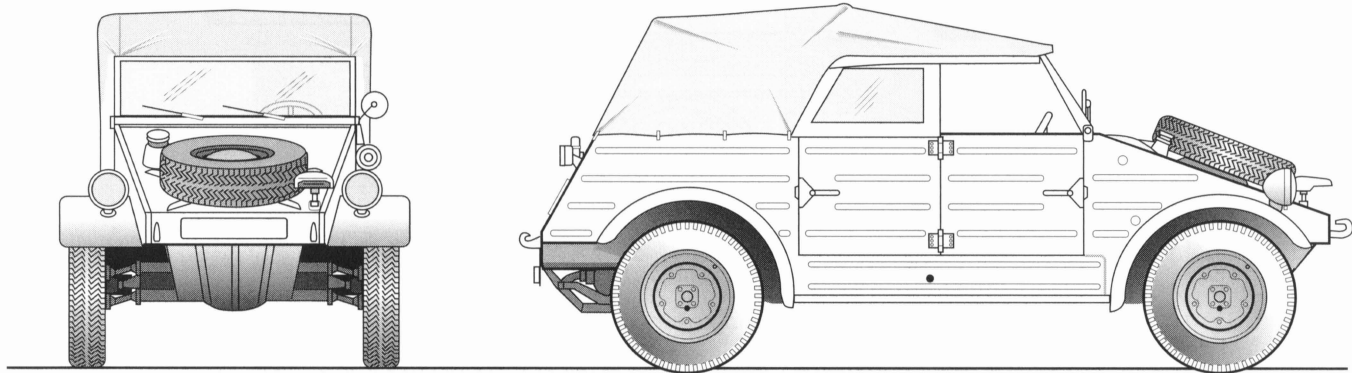


View of the vehicle with wheels in the lowered position.

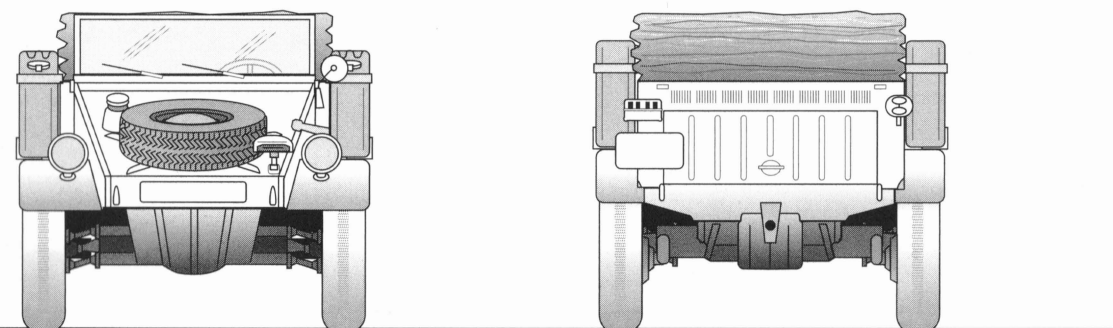
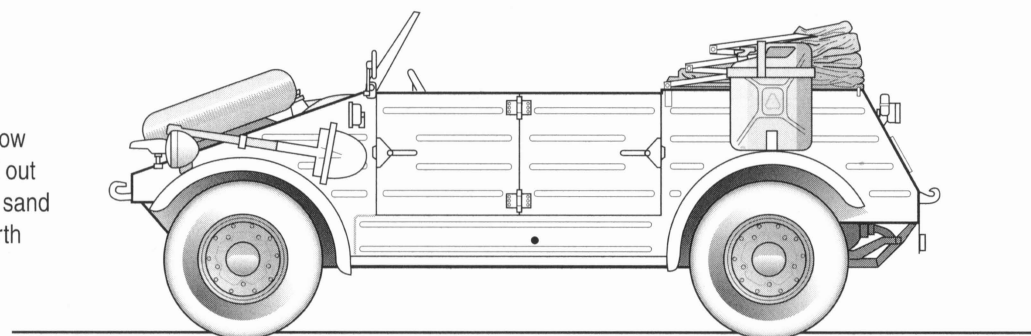


# Kübelwagen

Leichter Personenkraftwagen (Volkswagen Type 82, Kfz 1)

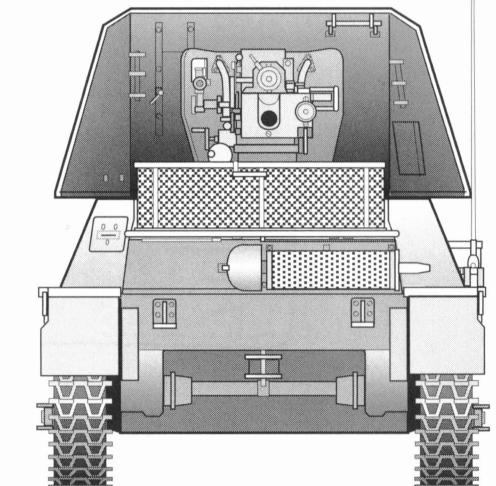
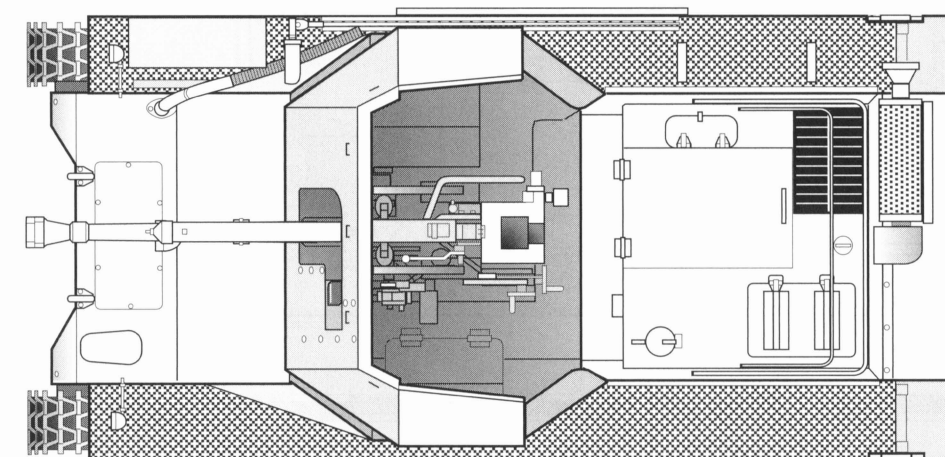
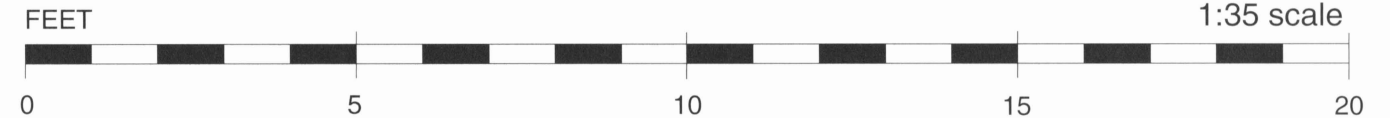
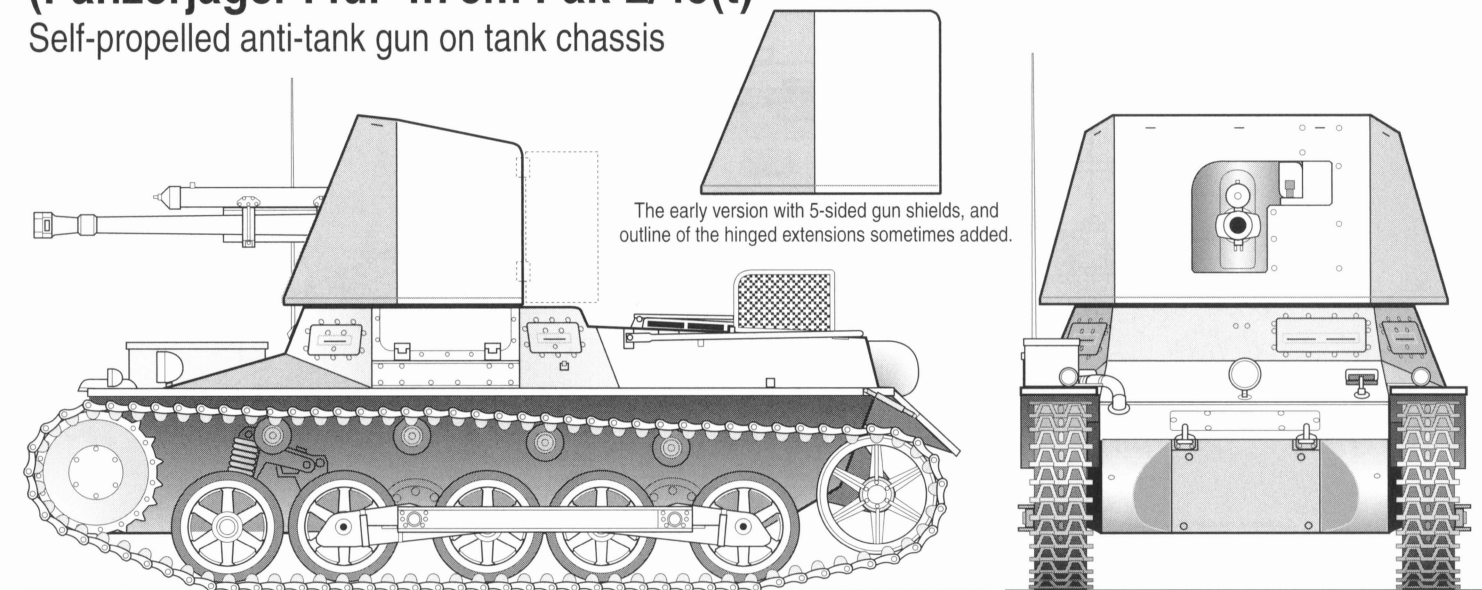


These lower views show the Kübelwagen fitted out with the large balloon sand tires for service in North Africa.

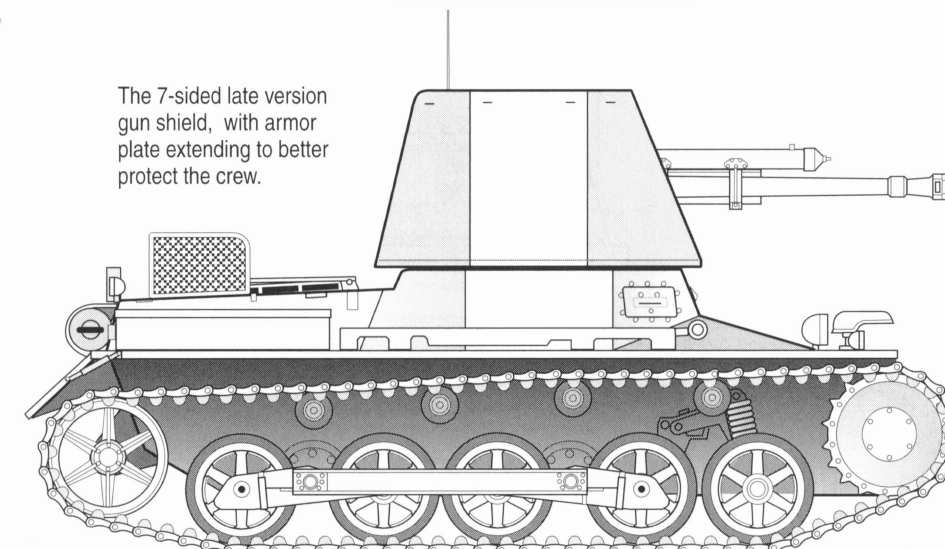


# 4.7cm PaK(t) (Sf) auf Pz.Kpfw. I Ausf. B (Panzerjäger I für 4.7cm Pak L/43(t))

Self-propelled anti-tank gun on tank chassis



The 7-sided late version gun shield, with armor plate extending to better protect the crew.

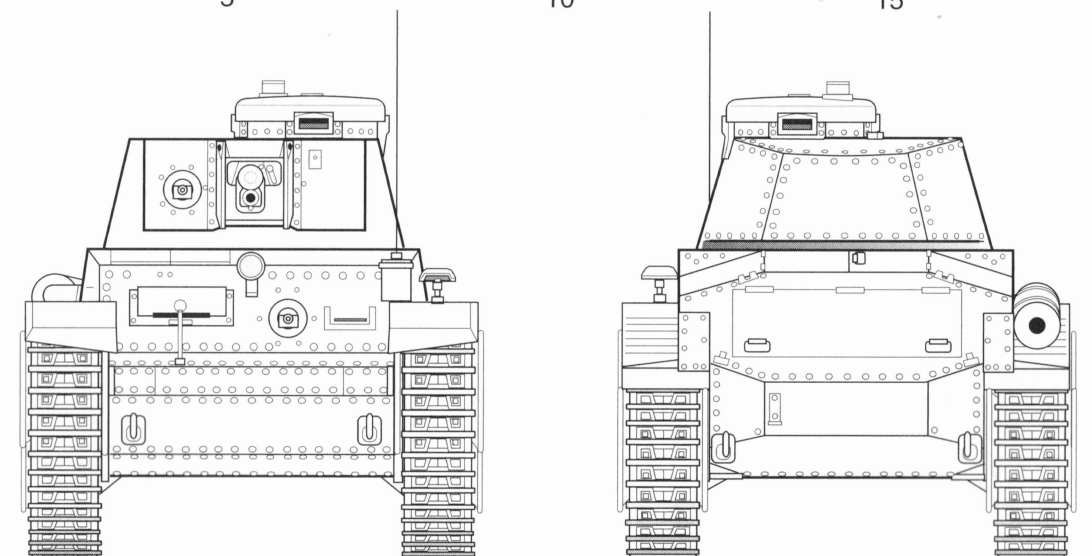
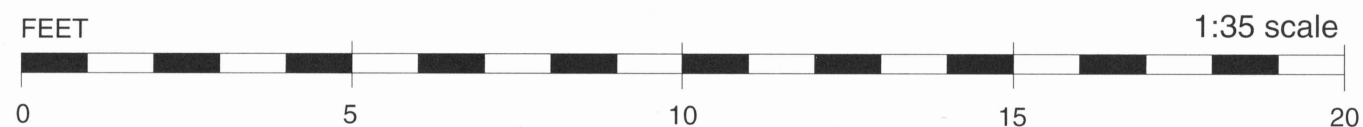
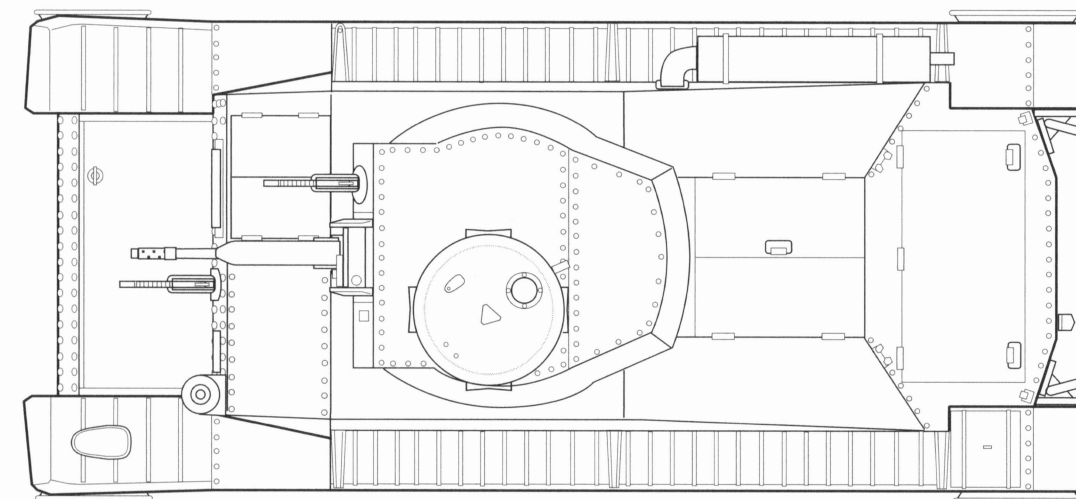
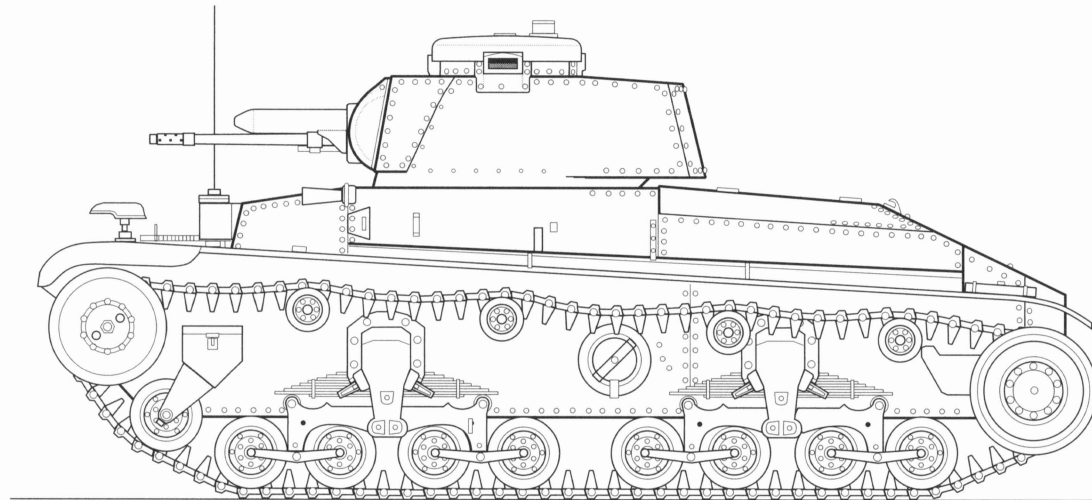


Hailed as Germany's first tracked tank destroyer of WW2, it is hard to believe that within 4 years its task would be carried out by the 70 ton Jagdtiger.

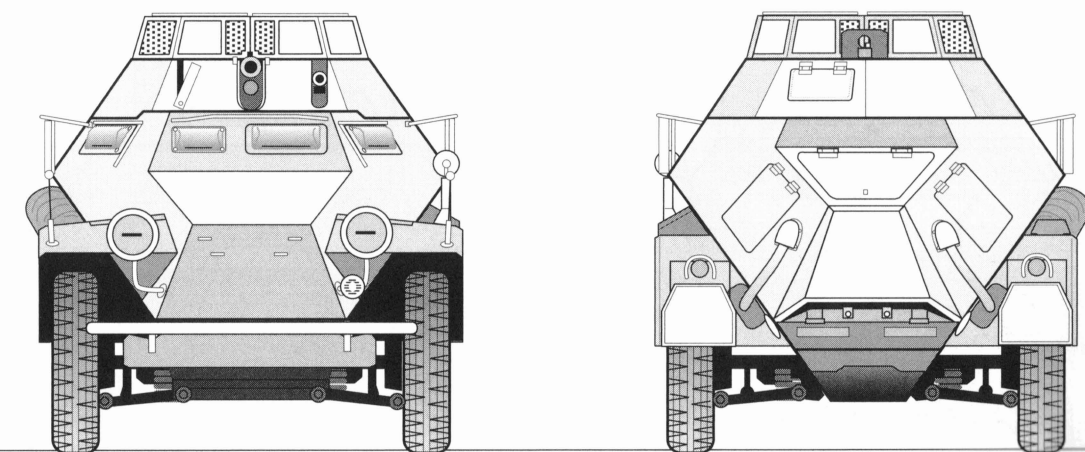
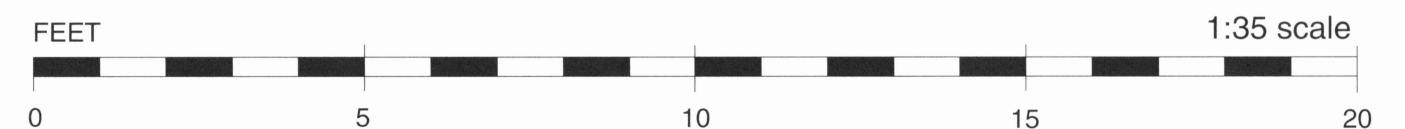
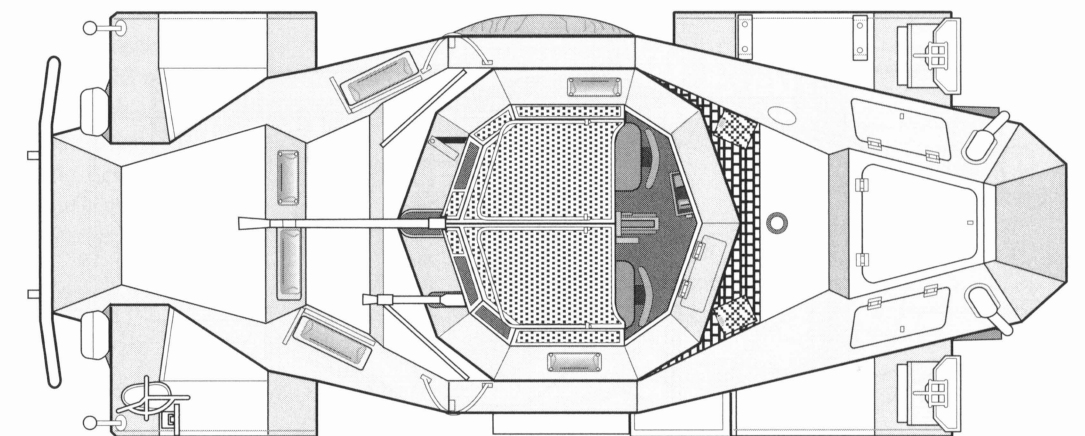
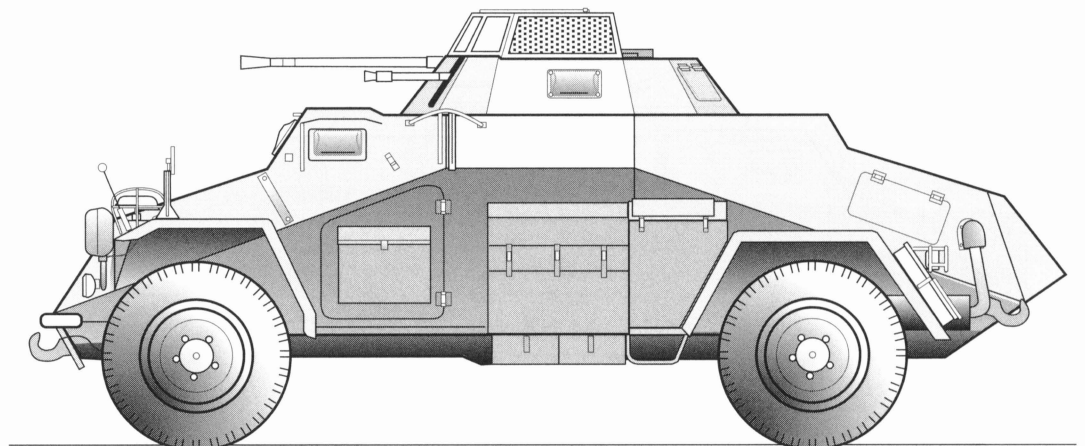
In 1940 Daimler-Benz, Skoda and possibly Alkett began converting the obsolete Pz.Kpfw. IB to mount the Czech 4.7cm anti-tank gun. Just over 200 were produced from 1940 to early 1941, with slight improvements to the gun shield in later models. There appear to have been at least 3 gun shield configurations. The Skoda production line appears to have used the early sloped-top version, while the others may have mounted different shields.

They served in France, North Africa and Russia and were being phased out by the end of 1943. On the Eastern Front there were also variants fitted with the French 4.7cm PaK(f), possibly because of a shortage of the Czech weapon.

## Panzerkampfwagen 35(t) (Skoda LT vz 35, S-II-a)

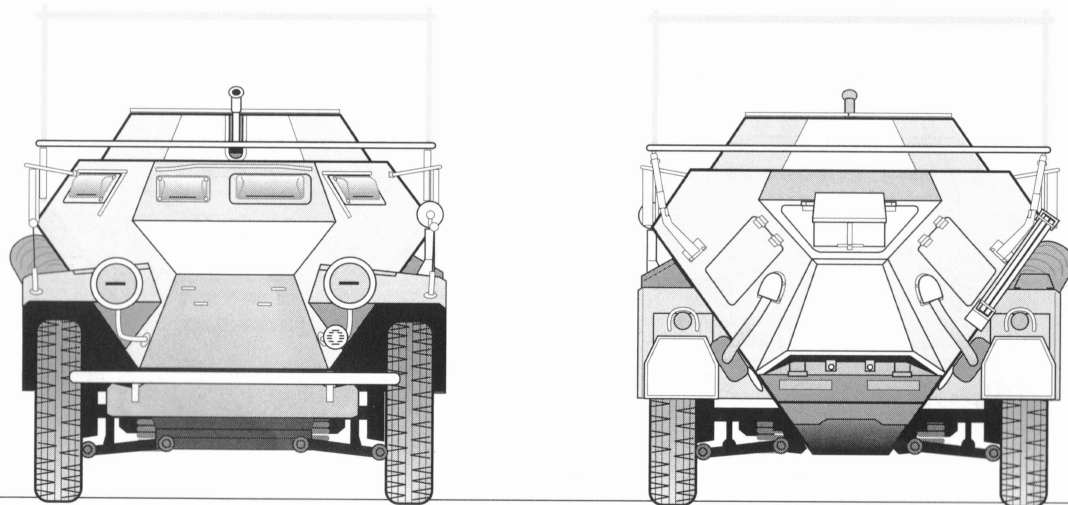
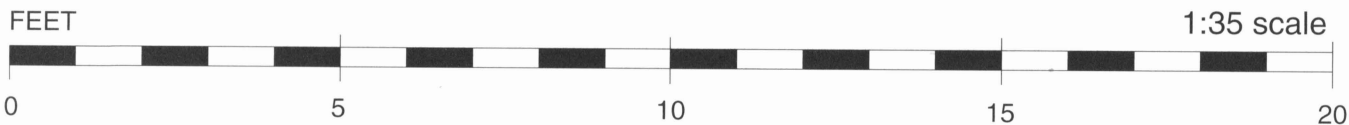
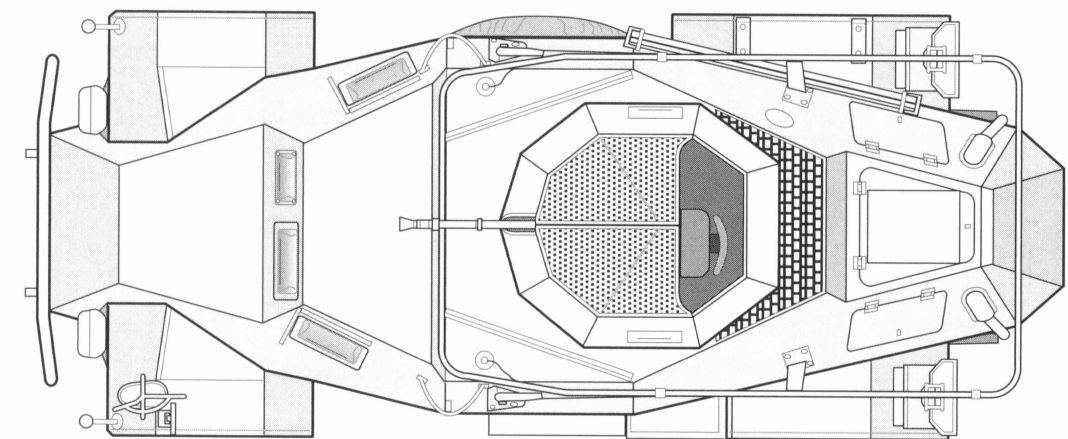
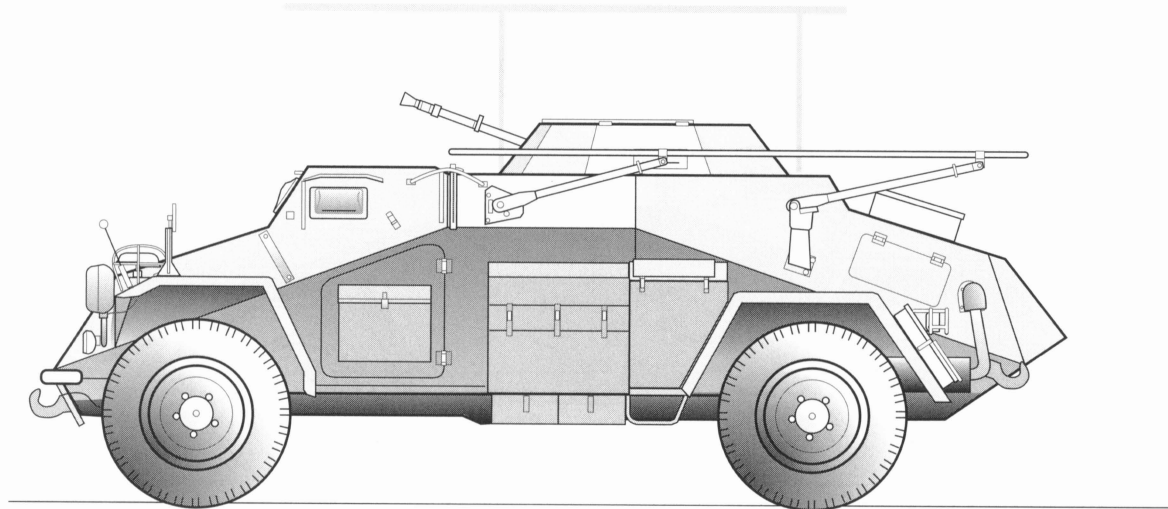


## Leichter Panzerspähwagen (2cm) (Sd.Kfz. 222) Late Model





Leichter Panzerspähwagen (Fu)  
(Sd.Kfz. 223) Late Model

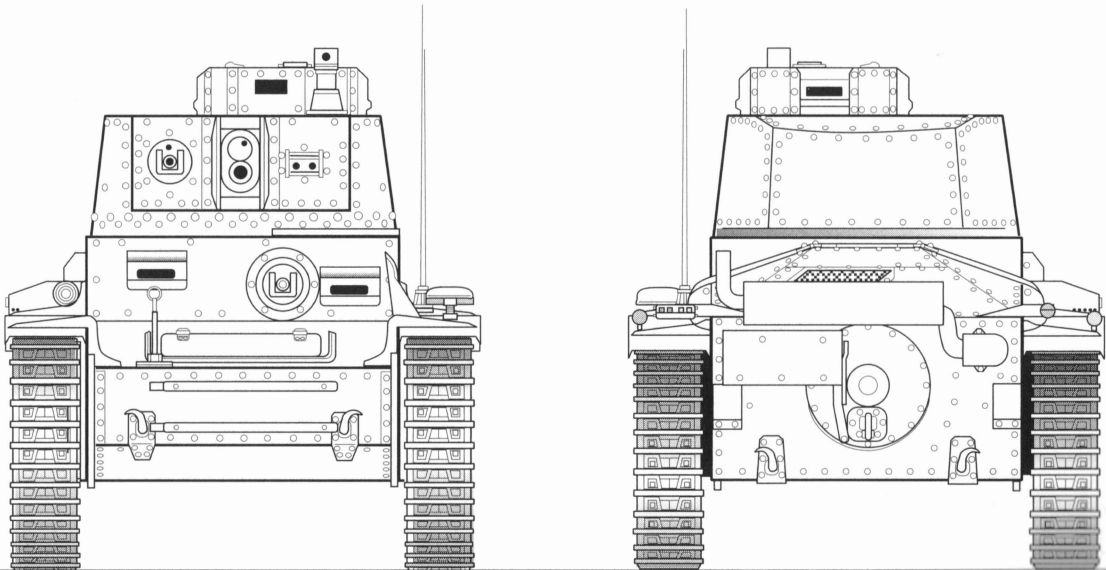
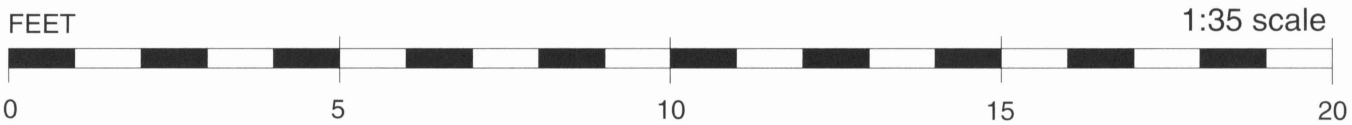
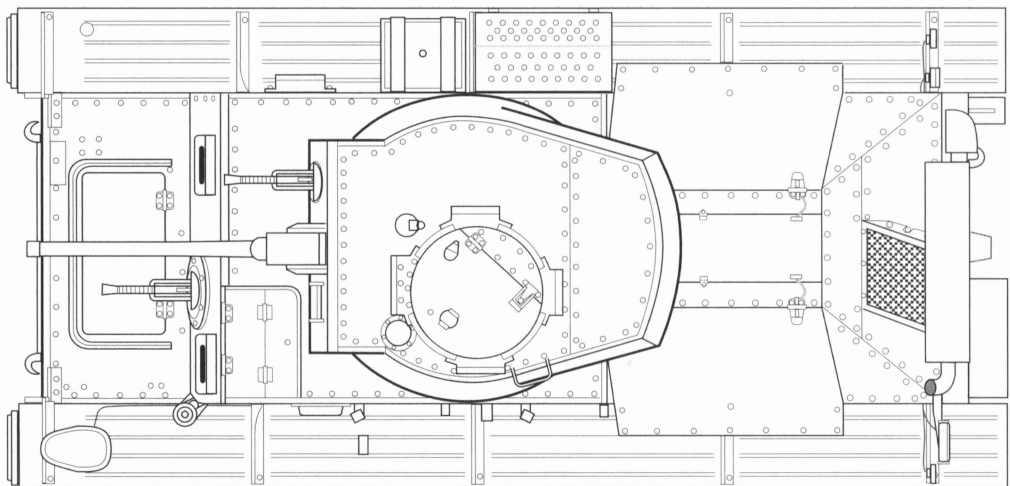
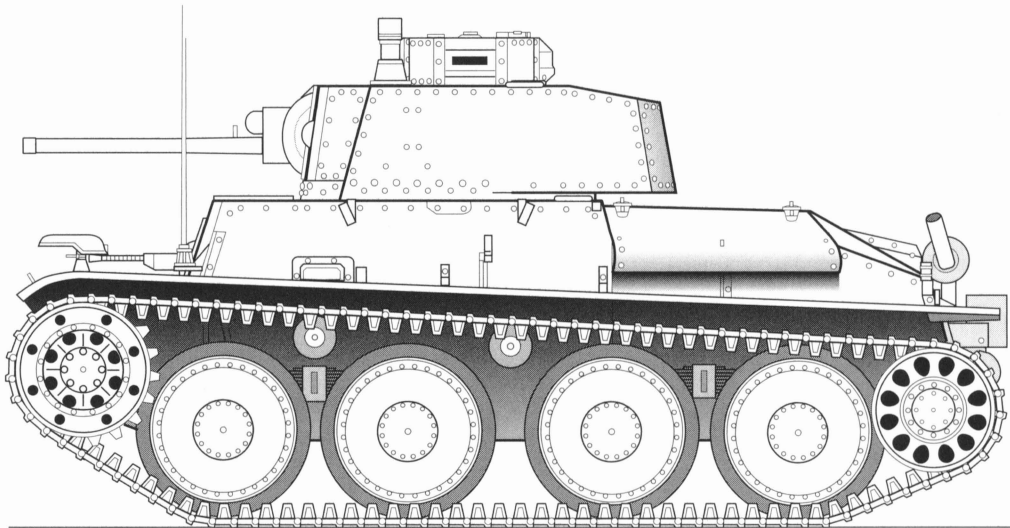


Pz.Kpfw. 38(t) Ausf. E and F  
(Praga LT vz.38)

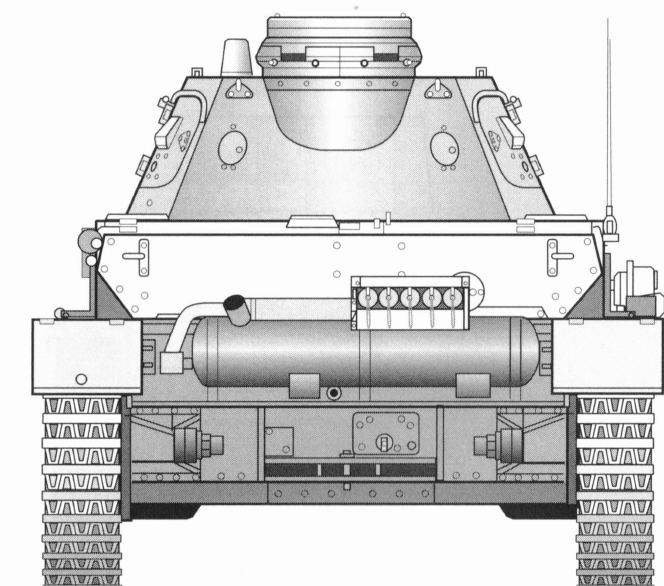
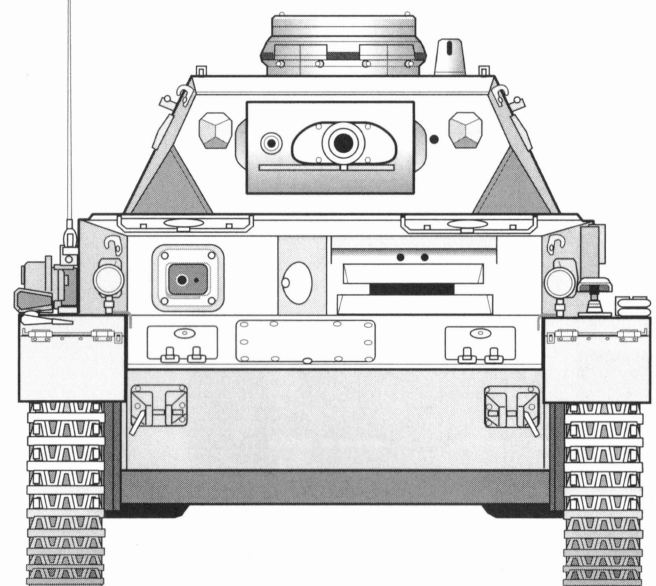
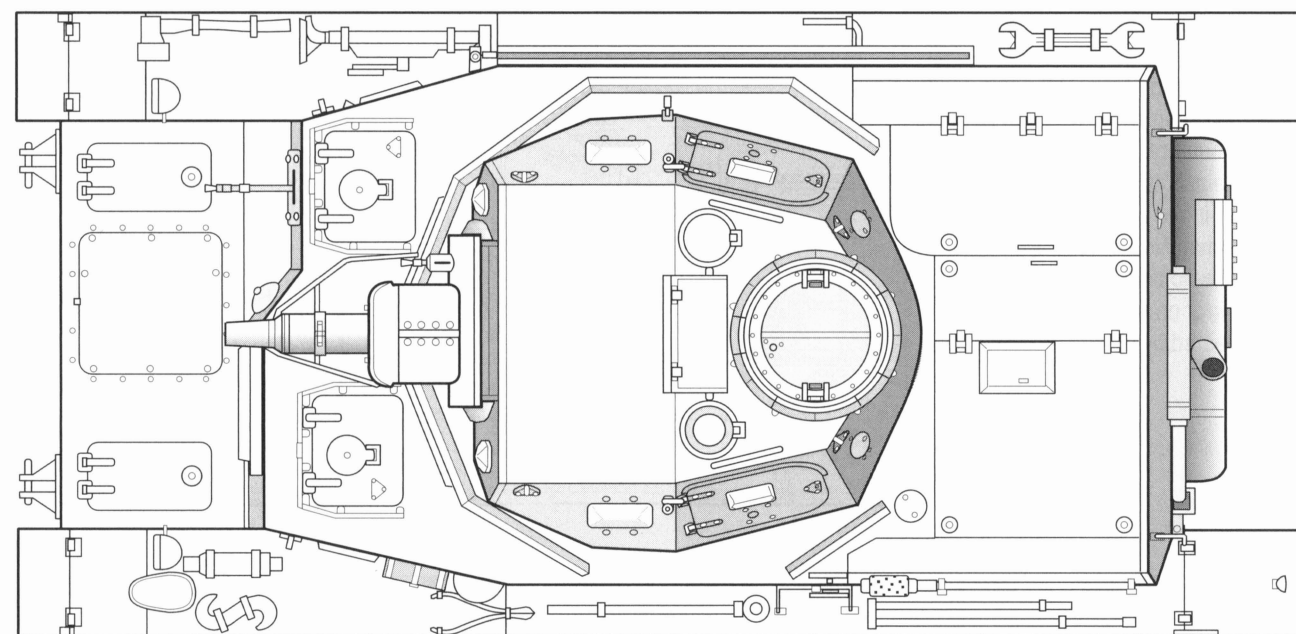
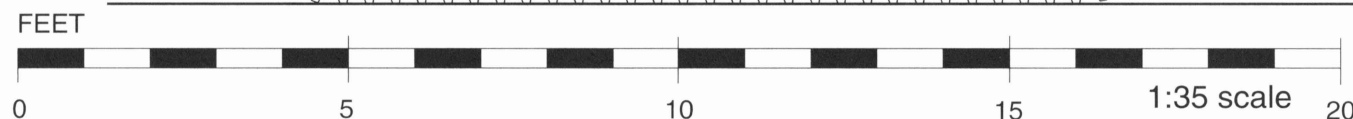
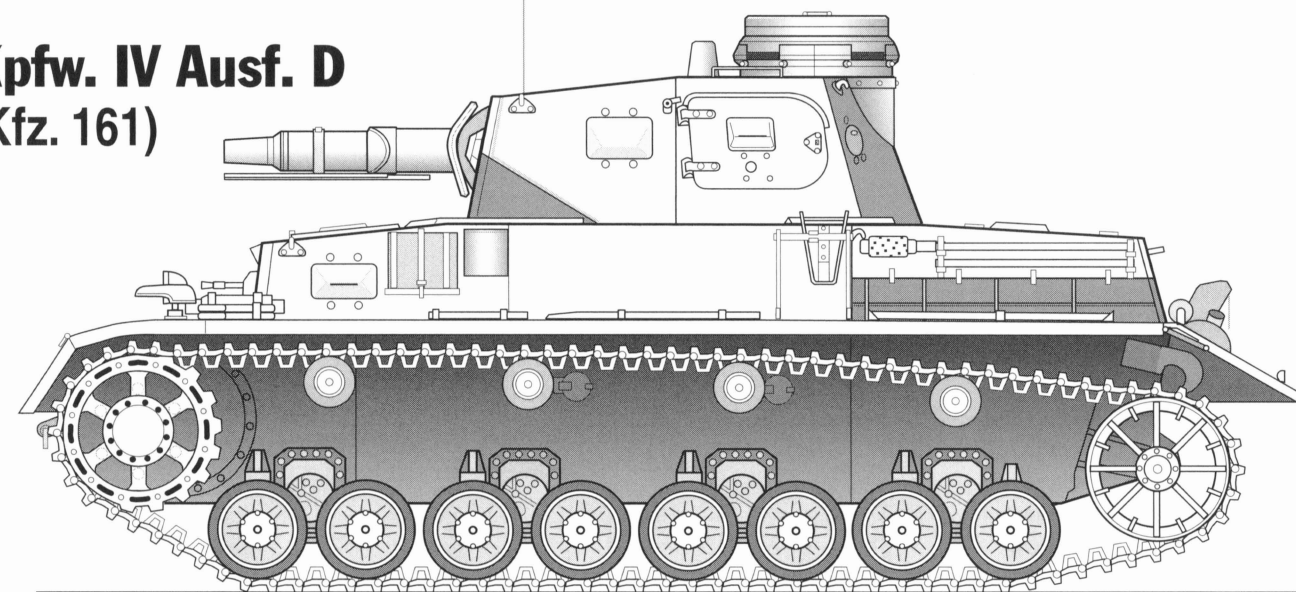
The Ausf. E and F series were the first to have the armor plate thickness increased. Battlefield experience with the earlier A-D series showed that double the original thickness was required. This did little to change the appearance of the vehicle, but it did increase the weight by almost a ton and additional leaf springs were required on the front stations.

At the same time, a straight front plate was incorporated, and fewer bolts were used on the front plates and engine covers. Heavier and less complex cast iron visor plates for the driver and radio operator's position were added, and the turret MG was now mounted internally, which deleted the outer protective ring. The bow MG retained its ring.

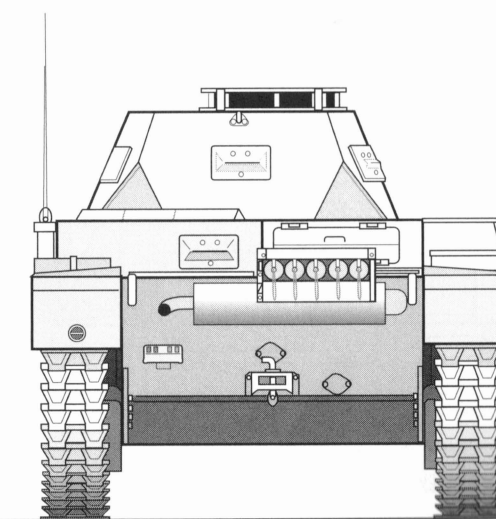
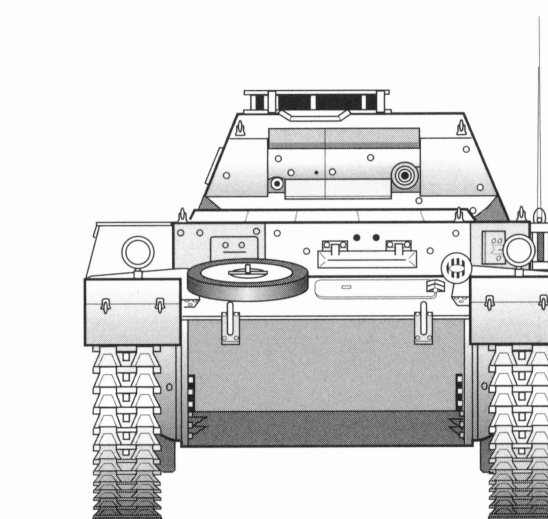
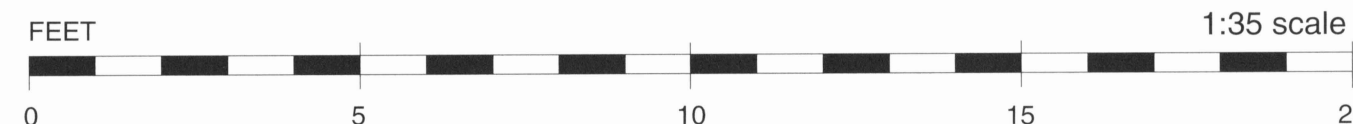
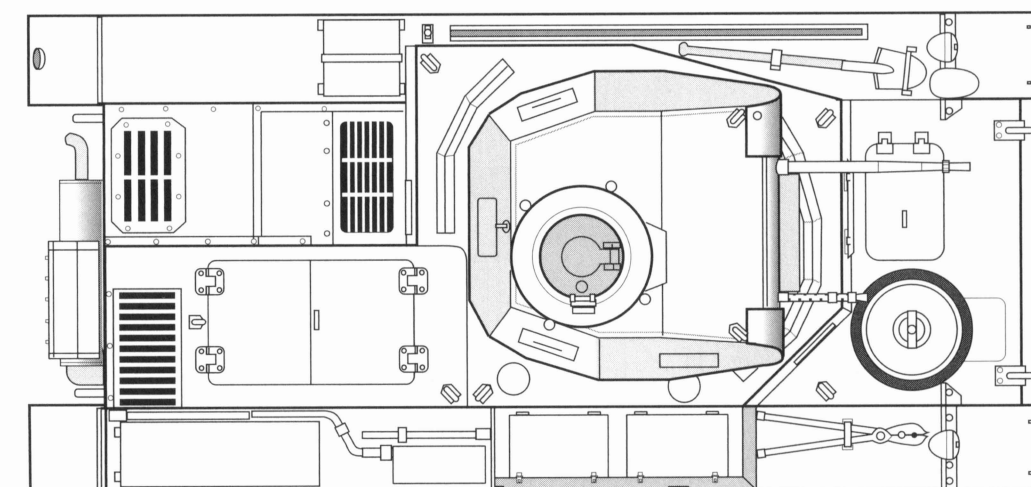
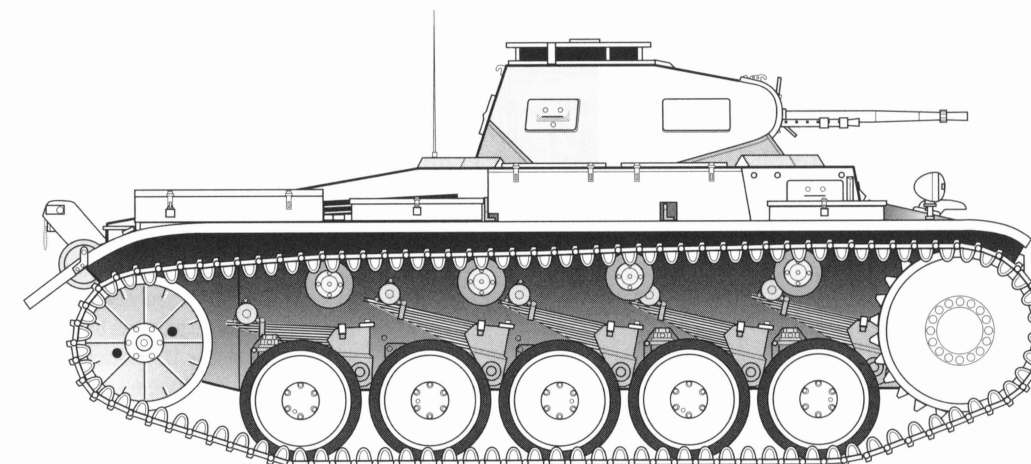
Naturally, it had been fitted earlier with the German Notek night light system and radio aerial. The Czech rear view mirror on the left fender had also disappeared by now.



## Pz.Kpfw. IV Ausf. D (Sd.Kfz. 161)



## Pz.Kpfw. II Ausf. C Serving in North Africa c. 1941



The shortcomings of the armor on the Pz.Kpfw. II light tank was well noted in Spain. The fighting in Poland simply reinforced the need for thicker armor and steps were taken to increase it by bolting on additional plate to the bows of existing vehicles, and increasing the plate thickness on later production vehicles.

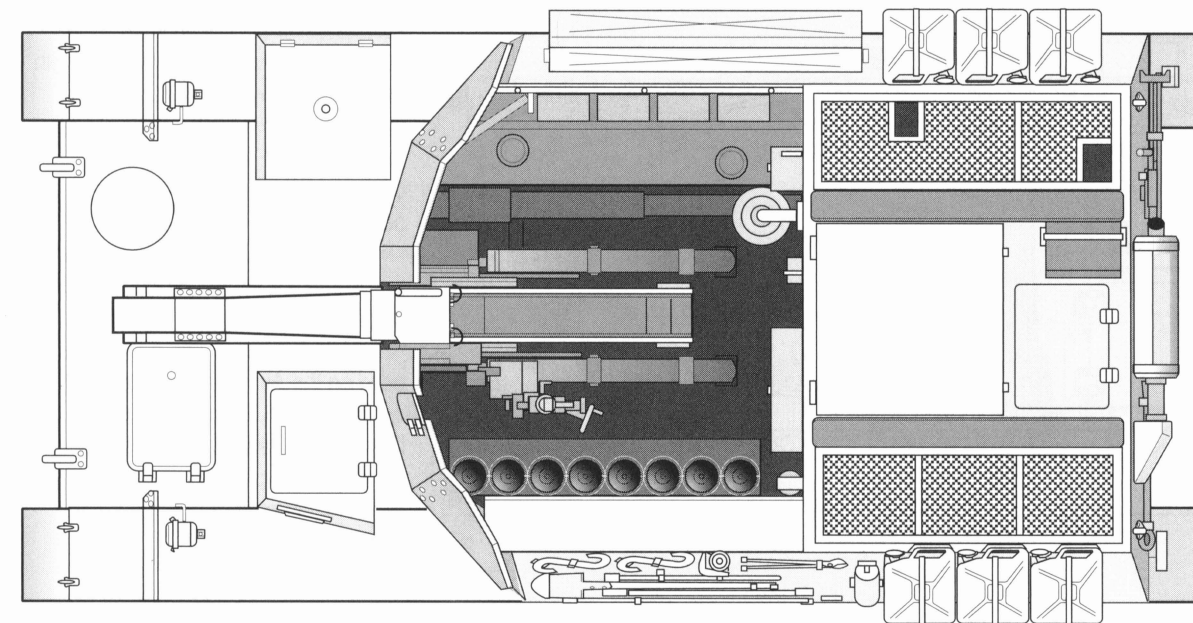
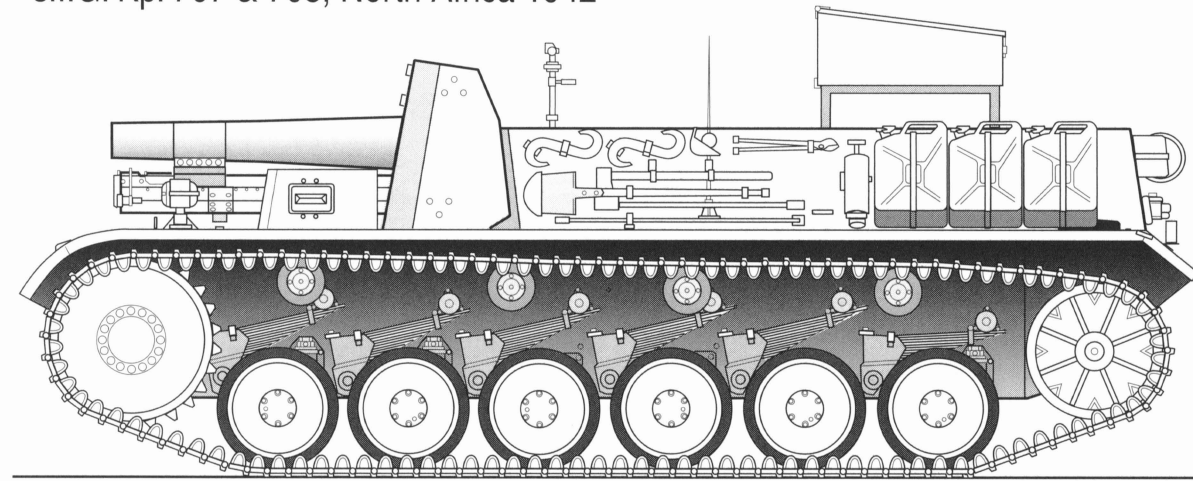
The Ausf. c, A, B & C were almost identical except for certain changes to the visors, mantlet and bows. Originally their bow plate was rounded, but this was soon covered over with flat plate for extra protection. All four models featured the simple split hatch for the commander. This style hatch proved very unpopular with commanders, who found they had very limited vision when buttoned up. With the Ausf F a circular commander's cupola with 8 periscopes would be standard.

Eventually, all those going to North Africa had the engine cooling system modified for the tropics, and were fitted with the new round cupolas as used on the Ausf F. All the Pz.Kpfw.IIs in Africa with 5.PR of 21.PD were fitted with Zusatzpanzerung on the front, and two-piece bent plates bolted onto the gun mantlet.

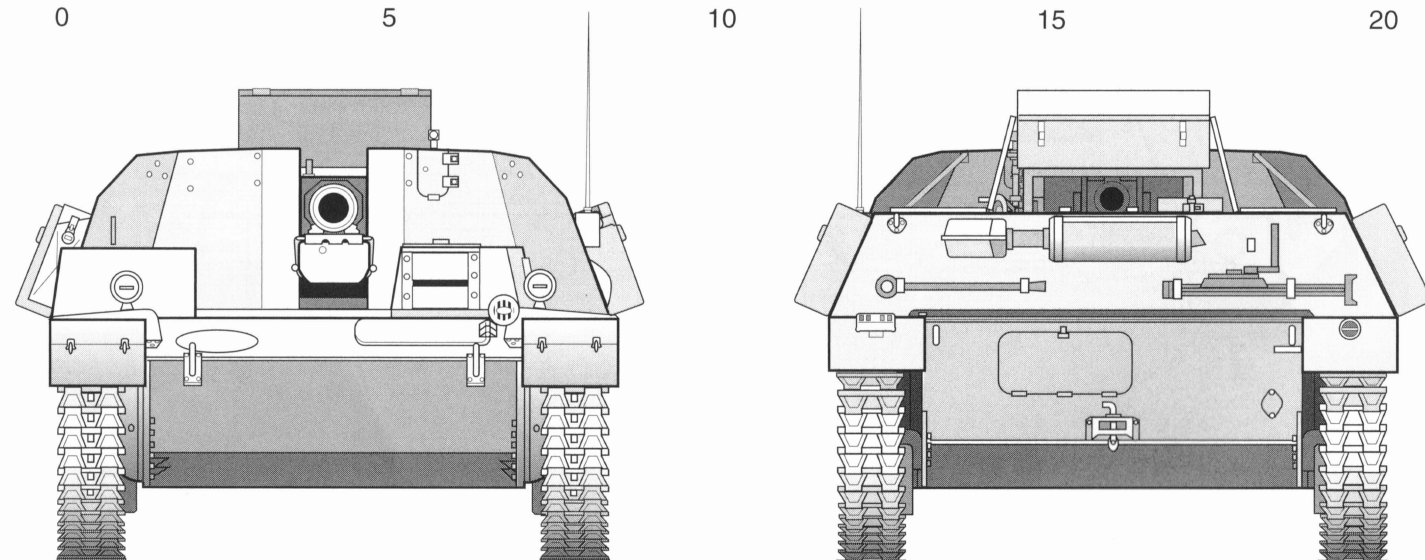
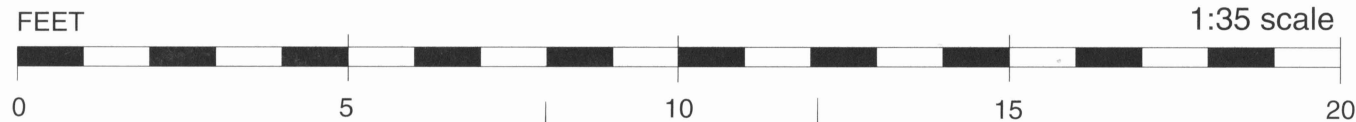


# 15 cm sIG 33 B (Sfl)

s.I.G. Kp. 707 & 708, North Africa 1942



Both the top view and rear view show the air exchange covers raised.



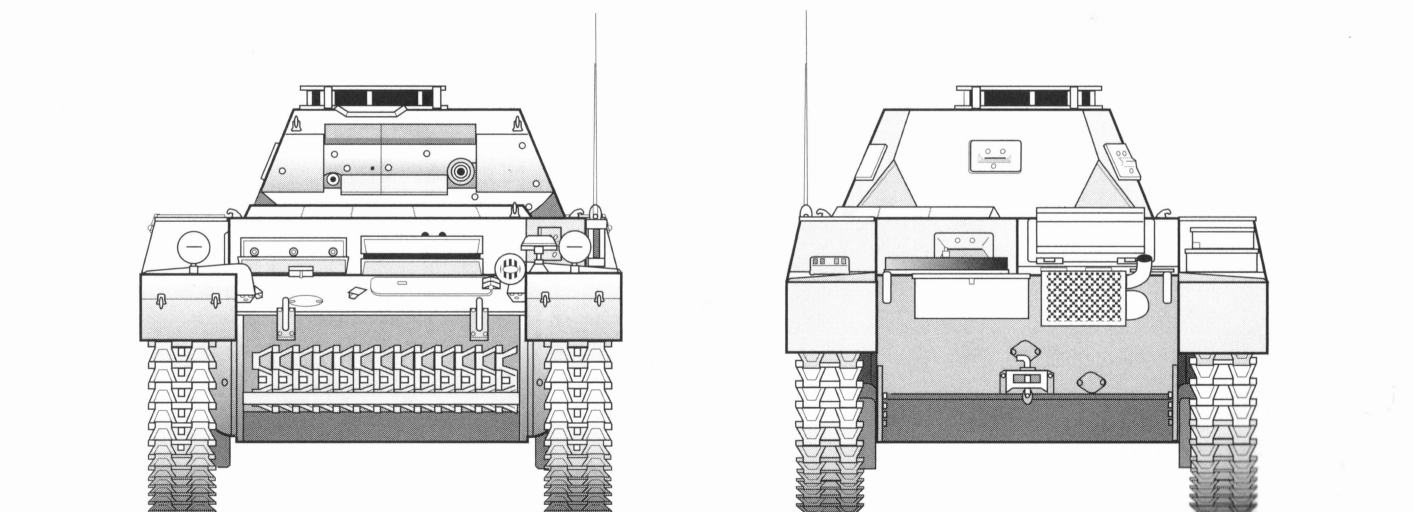
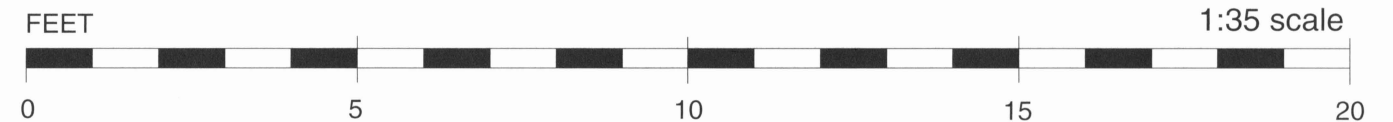
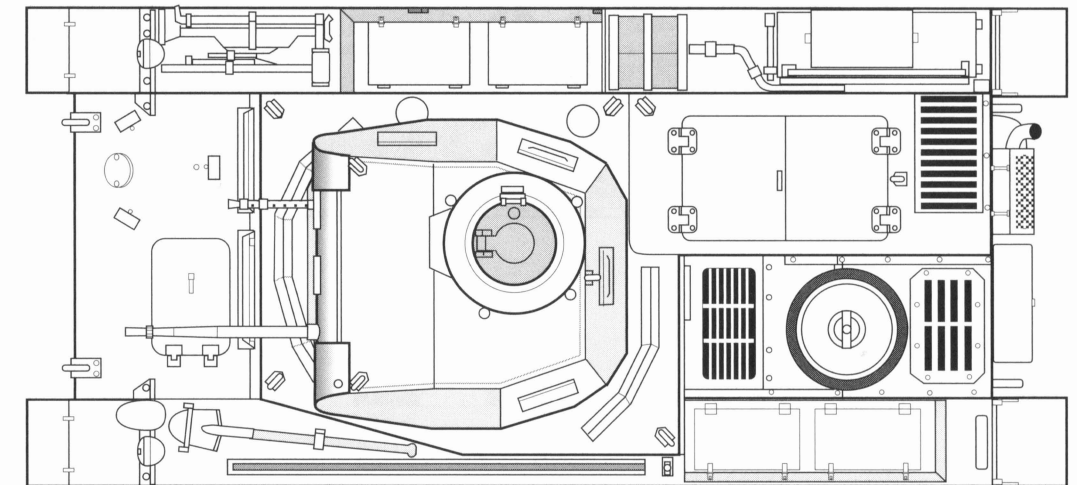
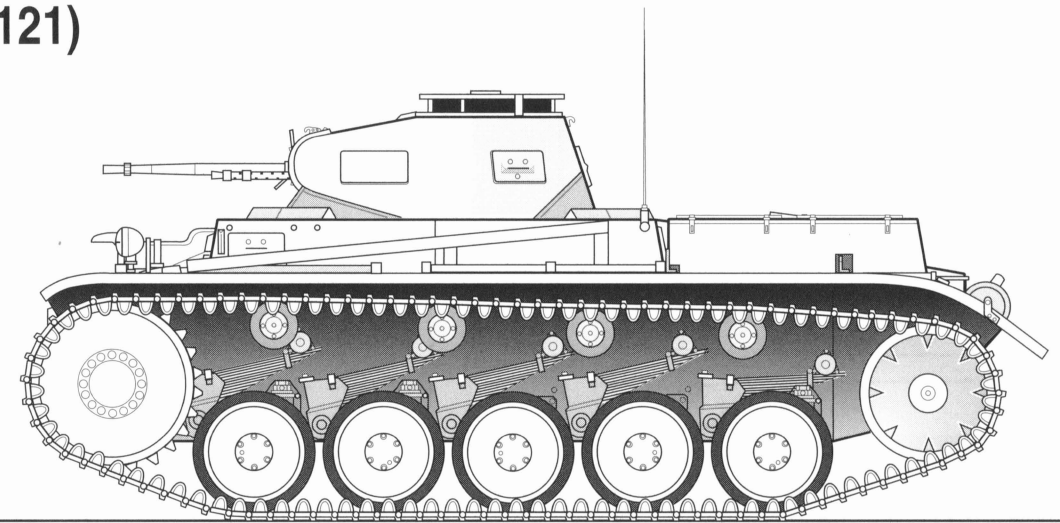
The 15 cm sIG 33 was a heavy infantry gun, first mounted on the PzKpfw. I chassis so it could keep pace of the panzer advances. However, its silhouette was extremely high, and in February 1941 a new prototype was built on a Pz.II Ausf. B chassis by Alkett.

The original Pz.Kpfw. II chassis was deemed to be too short and too narrow. Therefore a new chassis with a sixth roadwheel and widened superstructure was built. Eventually 12 vehicles were built and all were sent to Africa early in 1942. There it was soon found that the vehicle was underpowered and the engine tended to overheat easily.

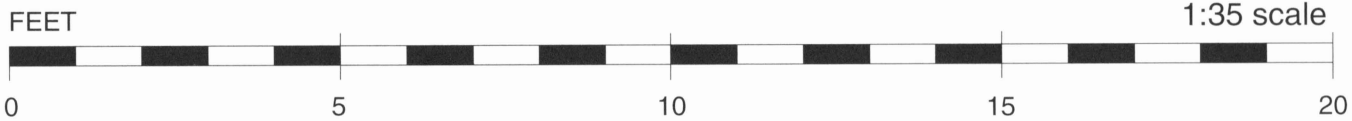
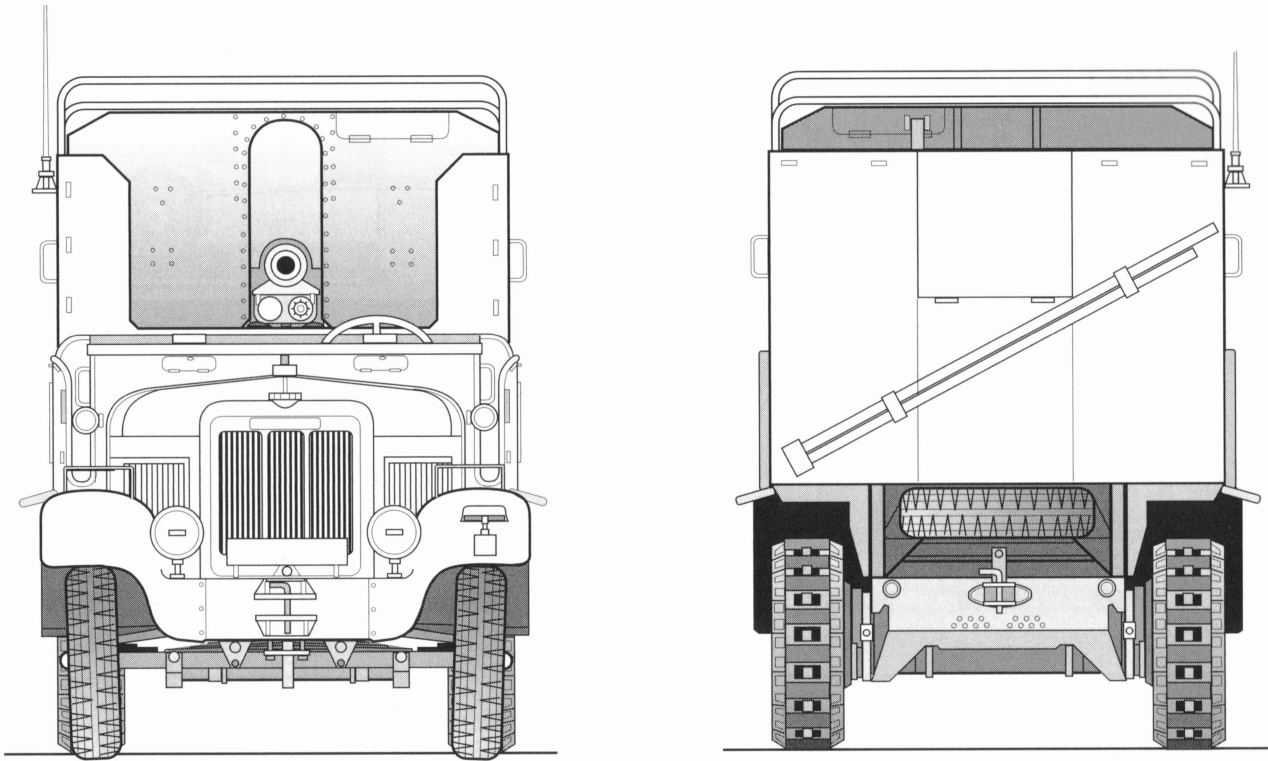
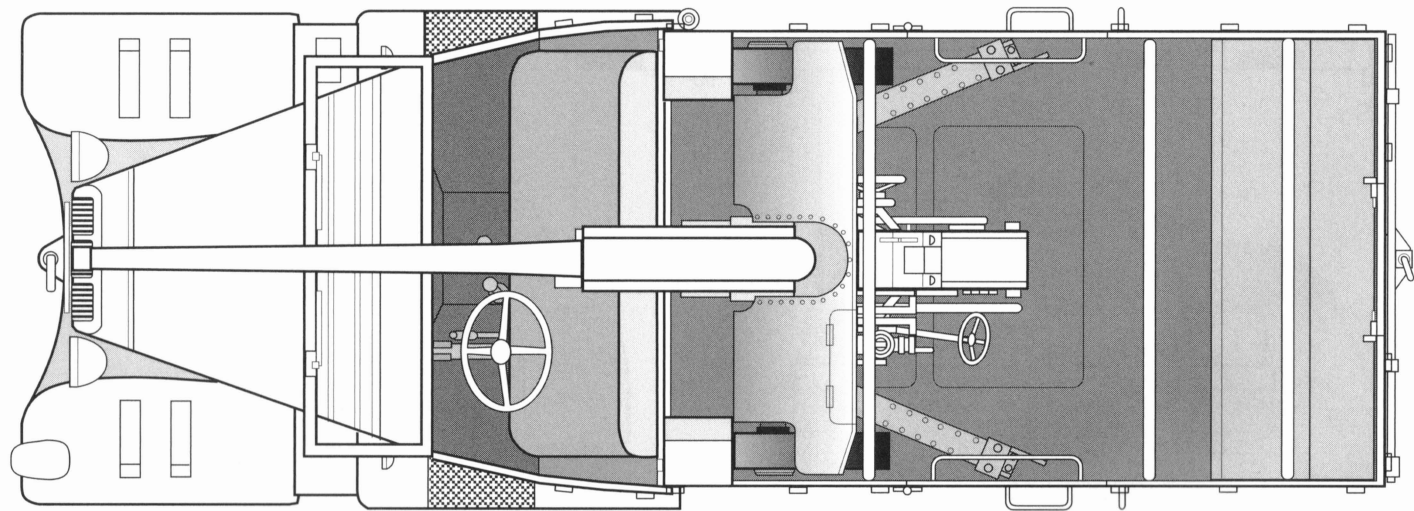
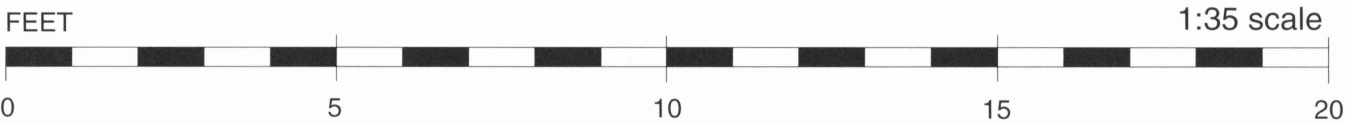
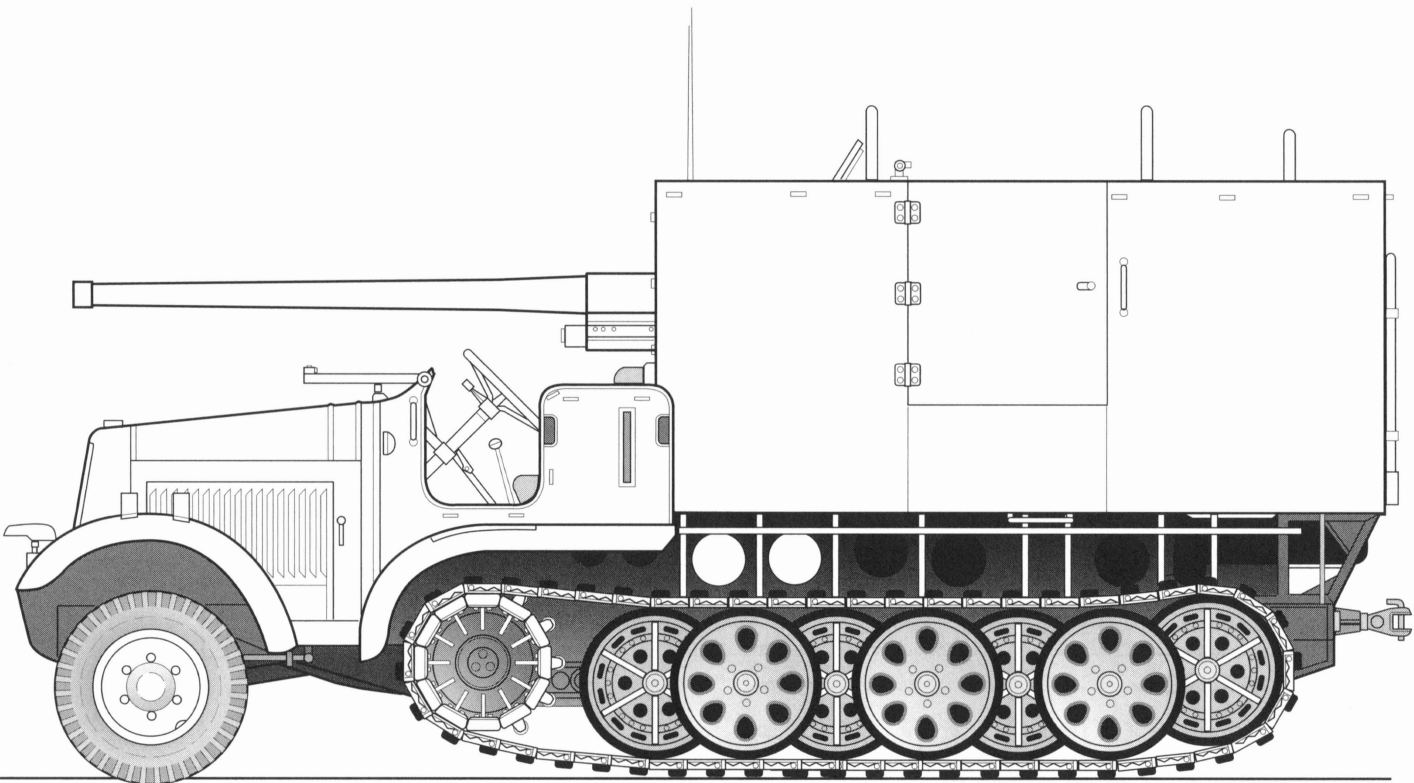
It was sIG.Kp. 707 (Sfl) and 708 (Sfl) that were fitted out with six vehicles each. The 707 was incorporated into Light Infantry Regt. 155 and 708 into Light Infantry Regt. 200. They first saw action in the Gazala battles, but were already suffering from continual engine and spare part problems.

By October 1942, there were 8 left, and the British report capturing 6 of them. A few that were in the rear for repairs could have soldiered on into 1943. Some of those captured were later used by the Egyptians in the 1948 war with Israel.

# Pz.Kpfw. II Ausf. F (Sd.Kfz. 121)



7.62cm FK36(r) auf Panzerjäger Sfl Zgkw 5t  
(Sd.Kfz. 6) "Diana"



During the initial battles in Russia the German forces captured large numbers of the Russian 76.2mm M1936 field gun. Since this gun proved to have a more lethal punch than the German 5cm Pak, and was readily available, it was issued to Panzerjäger detachments.

This eventually led to it being mounted on several self-propelled chassis, among these the Büssing-NAG BN9 5-ton semi-tracked prime mover. The idea was to mount the complete Russian gun, wheels and all, into an armored box on the semi-track chassis. The wheels were fixed in place with a strap-down system and the gun protruded well out over the engine hood.

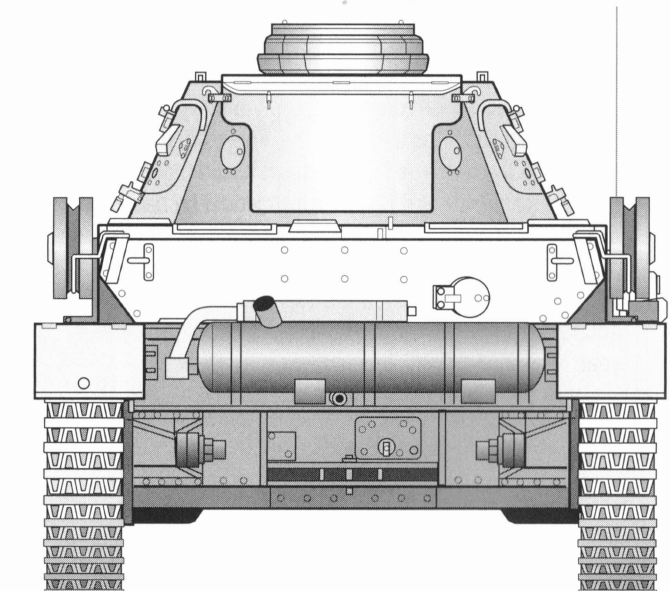
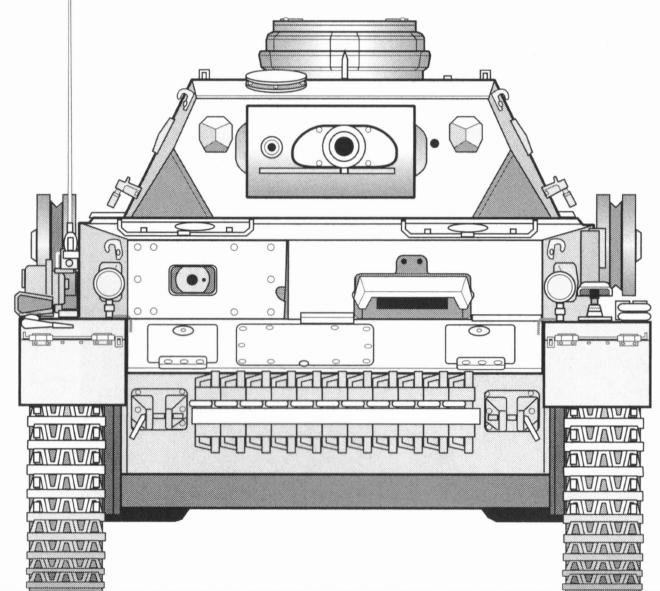
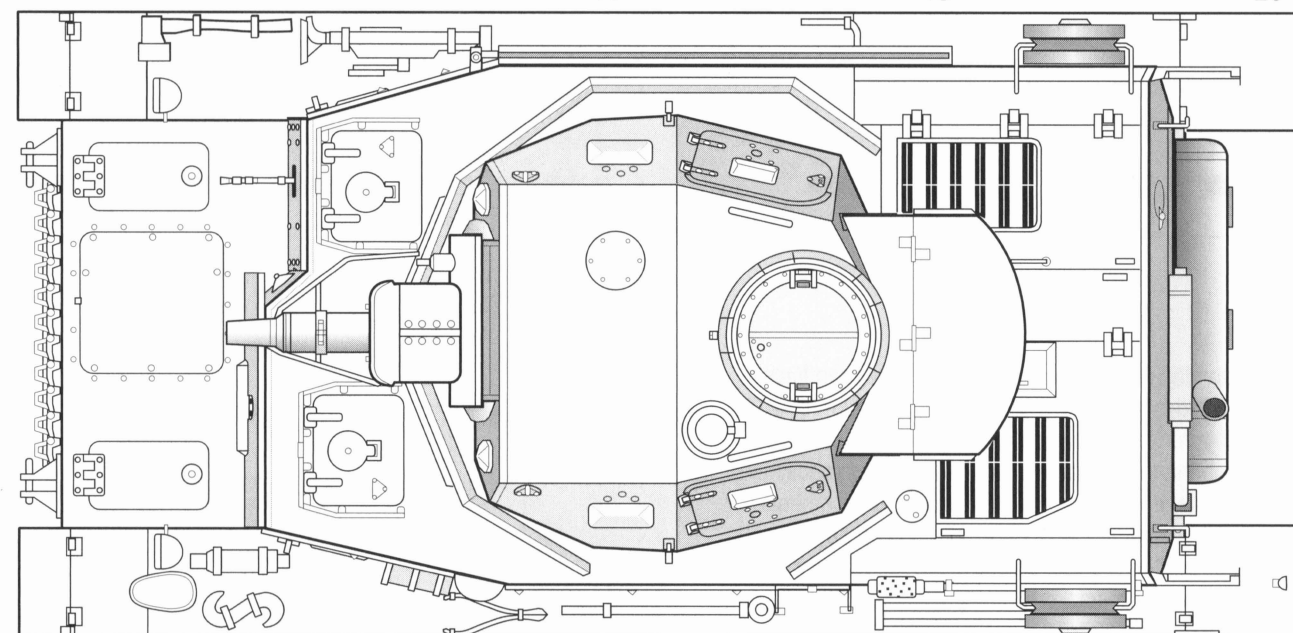
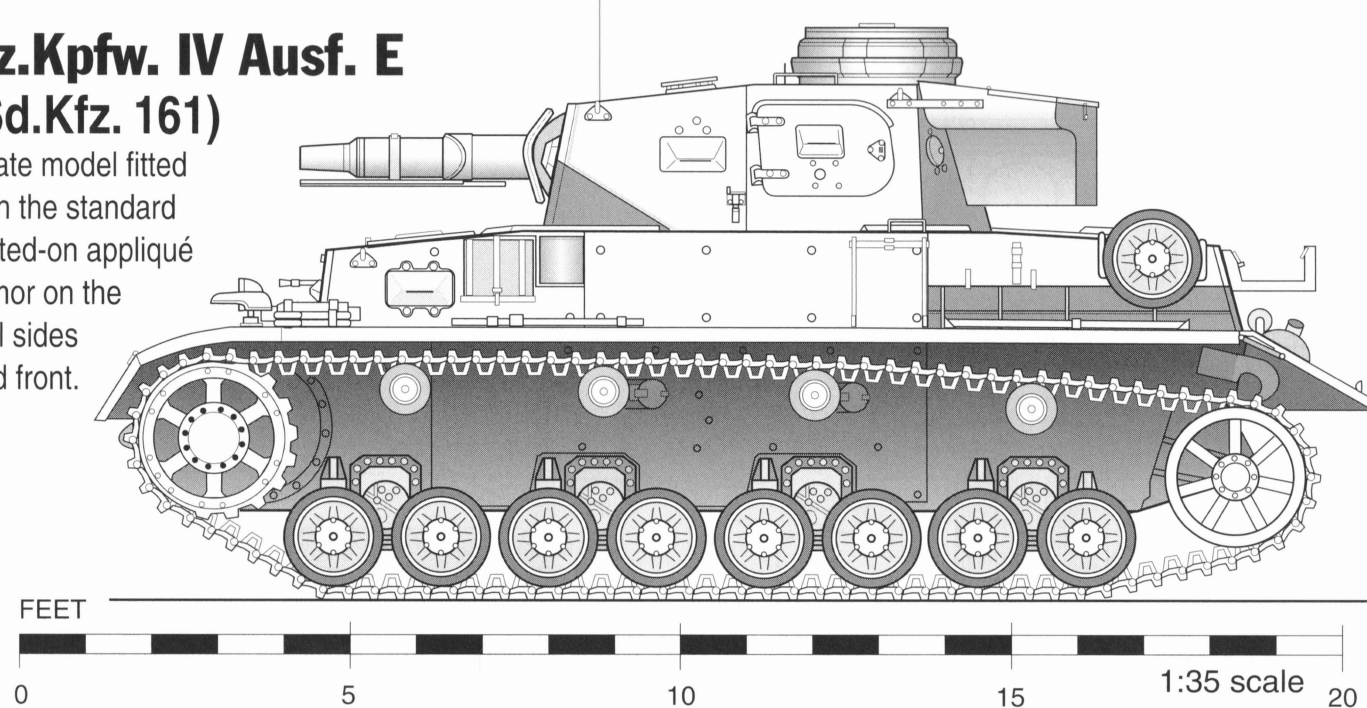
Nine chassis were prepared, and the code name "Diana" was assigned to the project. However, it is suggested that the true Diana project would have been a greatly improved Alkett design which would be based on experience learned in North Africa from the nine test beds placed in action there with 90th Light Division in 1942. They were all assigned to Panzerjäger Abt. 605 in April, and took part in the Gazala battles of May/June of that year.



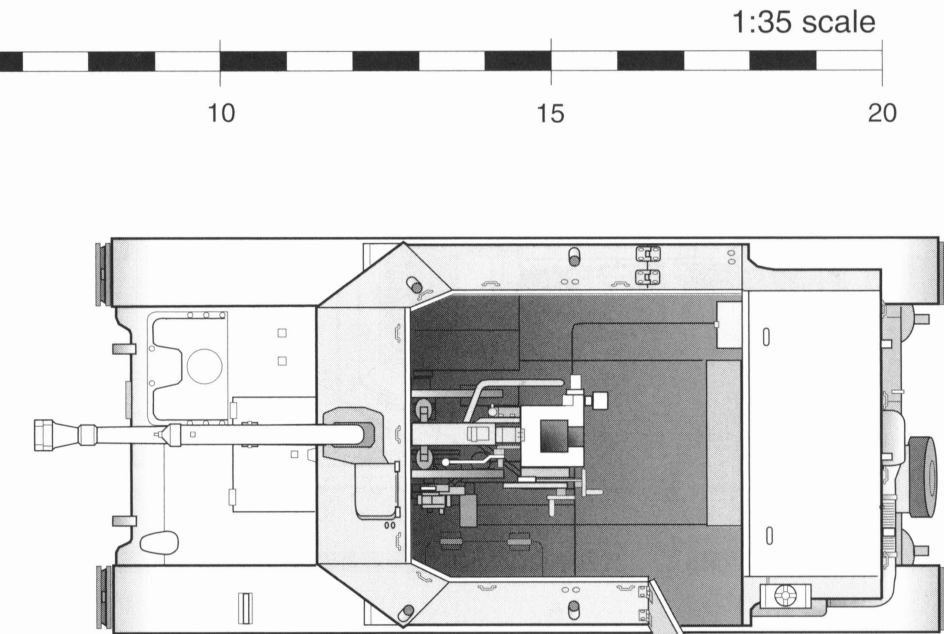
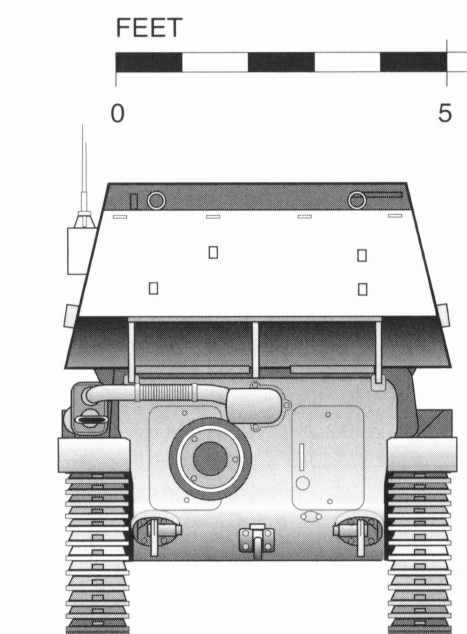
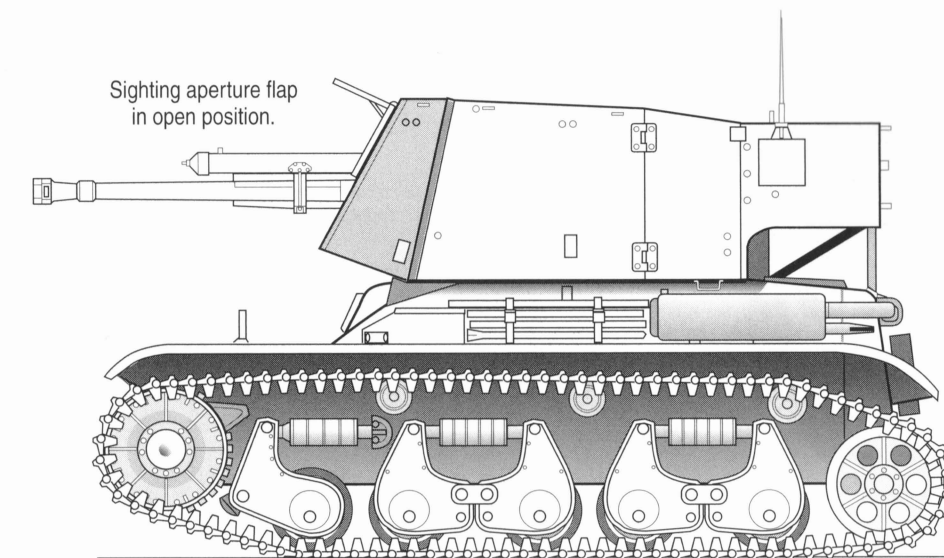
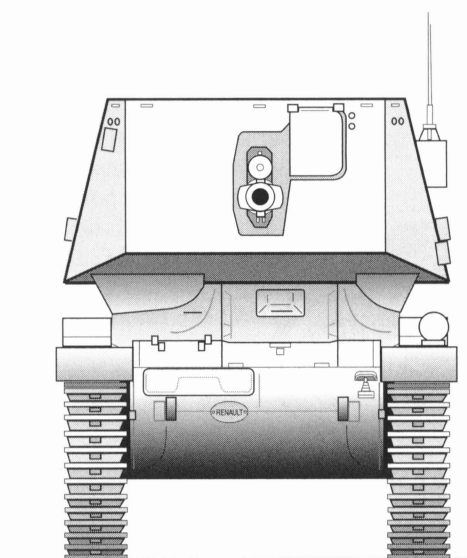


## Pz.Kpfw. IV Ausf. E (Sd.Kfz. 161)

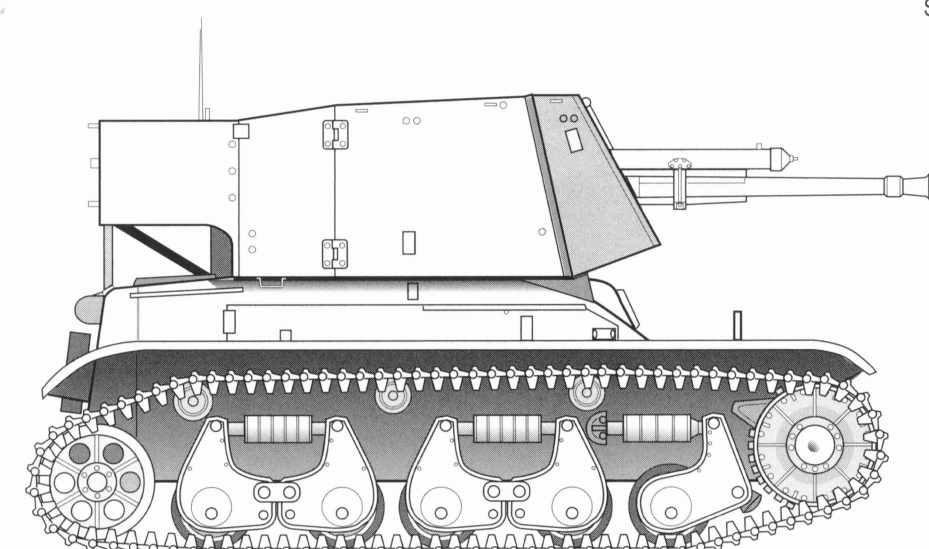
A late model fitted with the standard bolted-on appliqué armor on the hull sides and front.



## 4.7cm PaK(t) auf Pz.Kpfw. 35R(f) ohne Turm

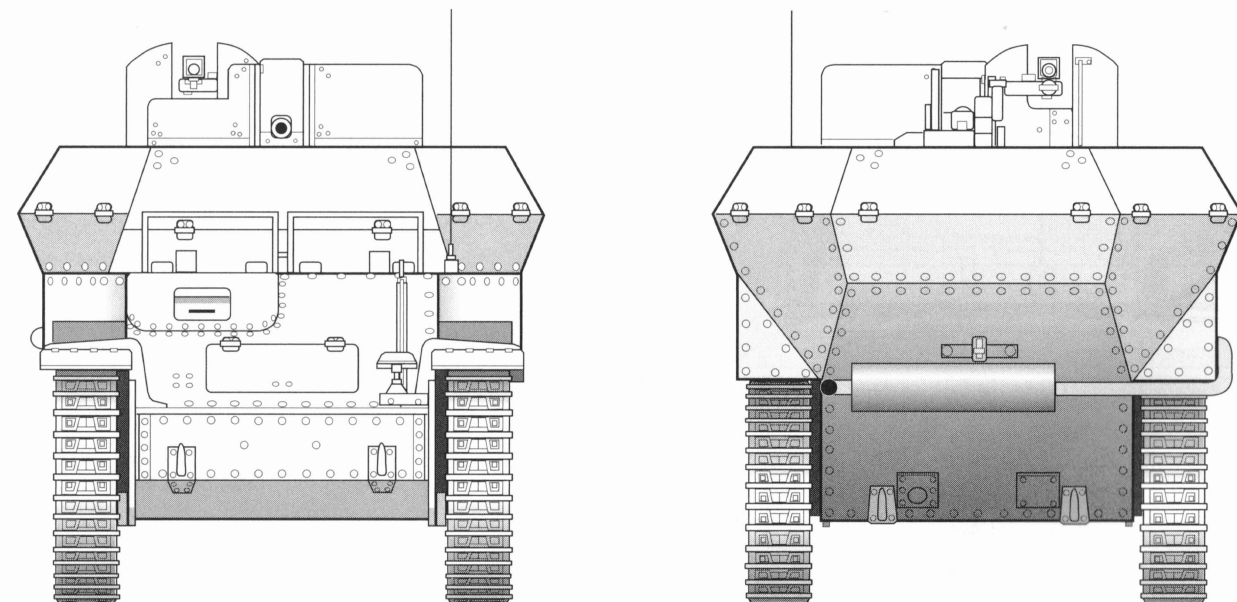
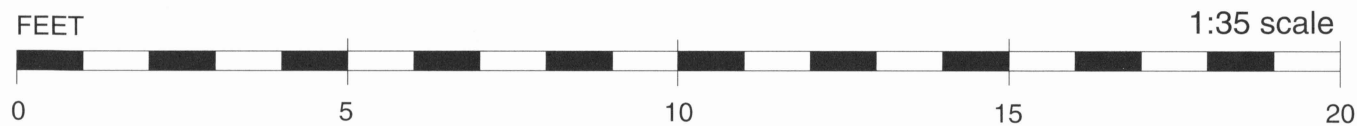
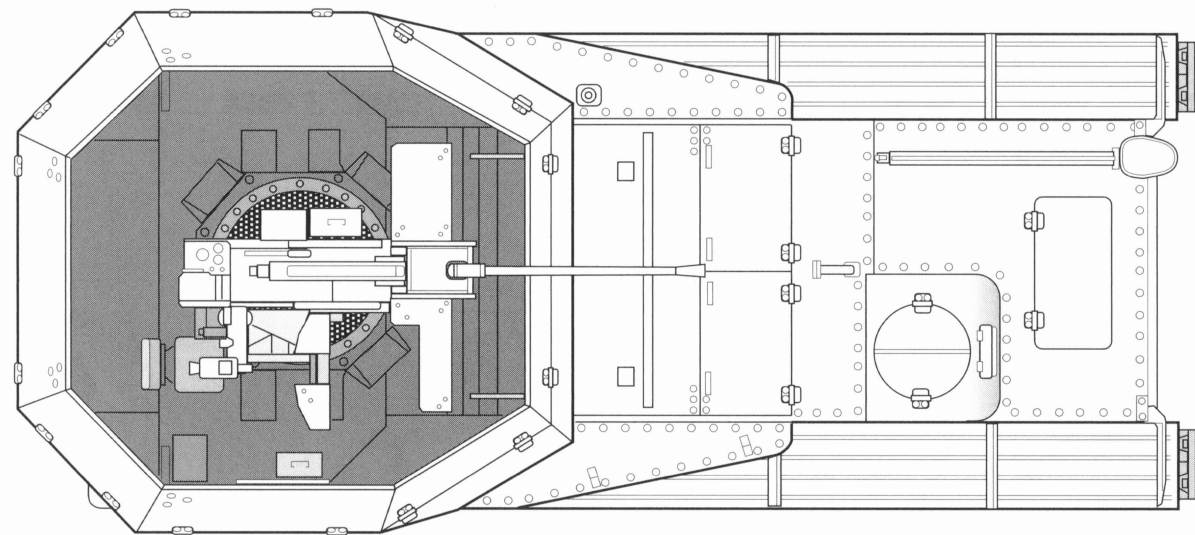
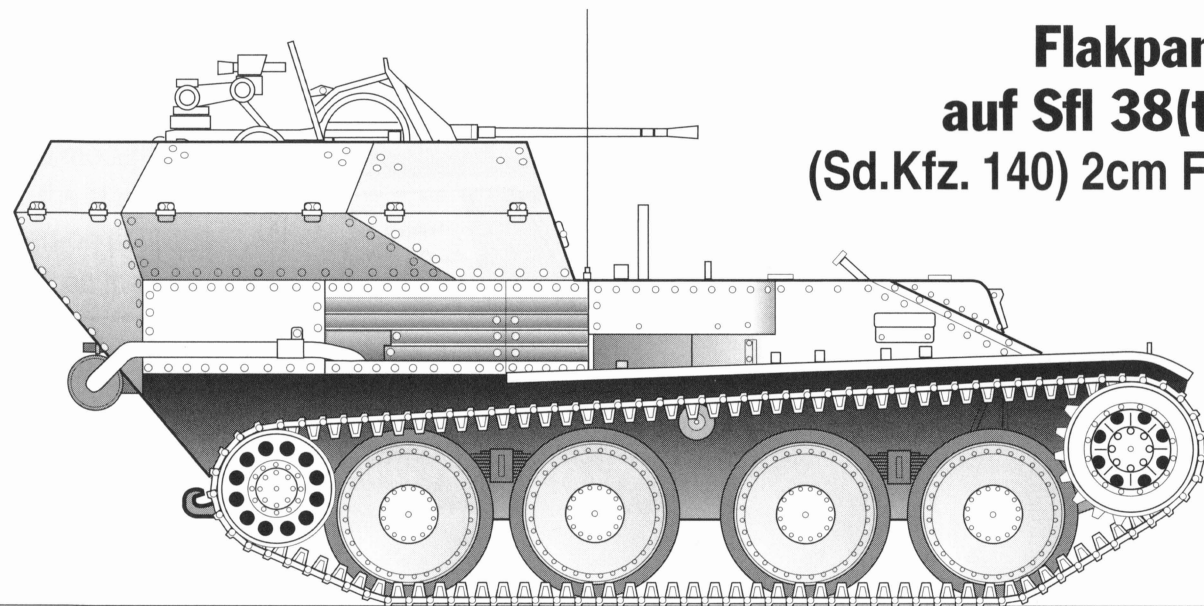


Showing side door open.



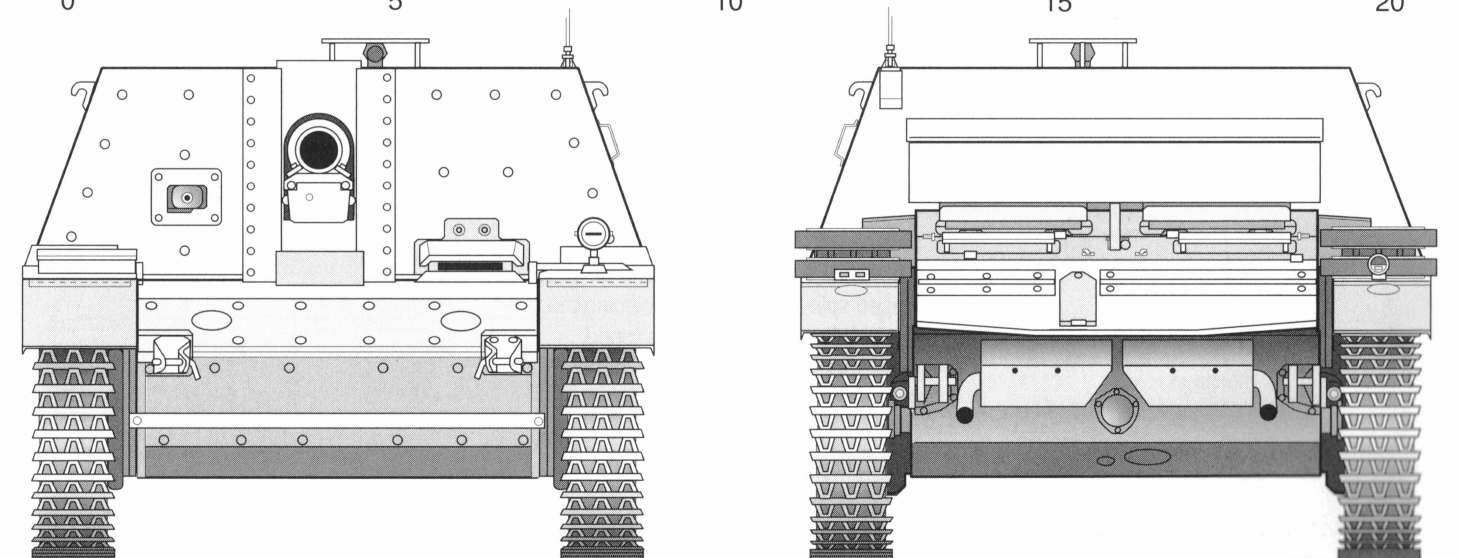
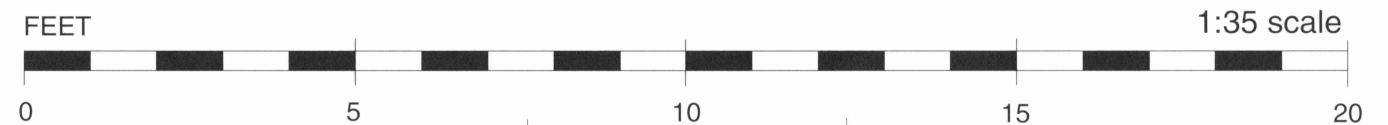
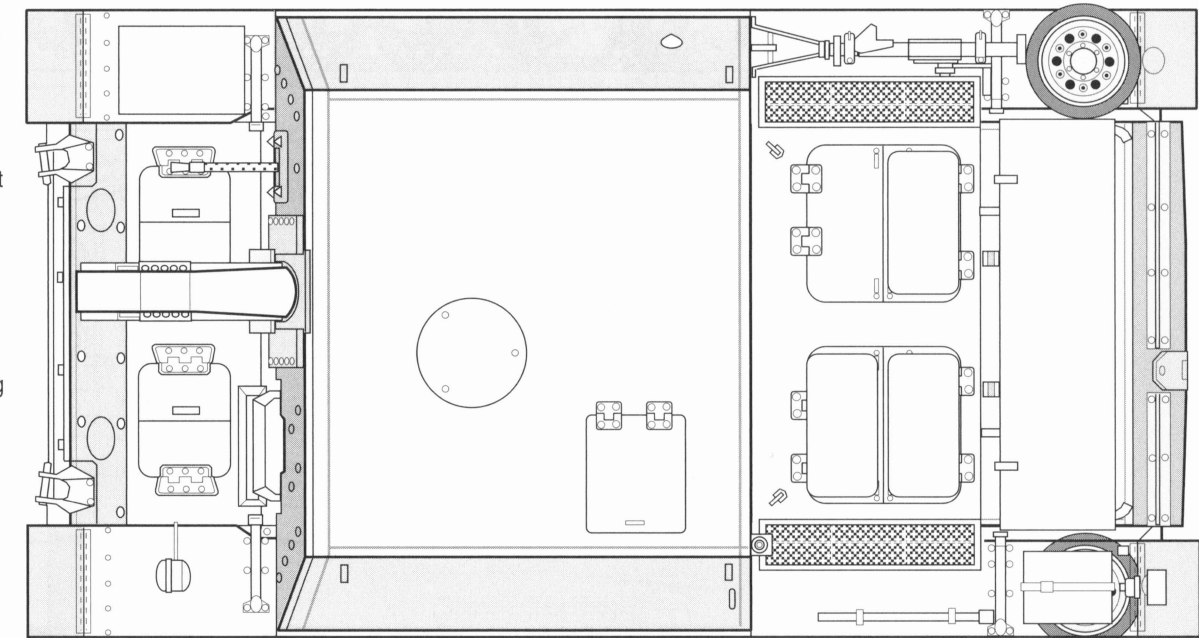
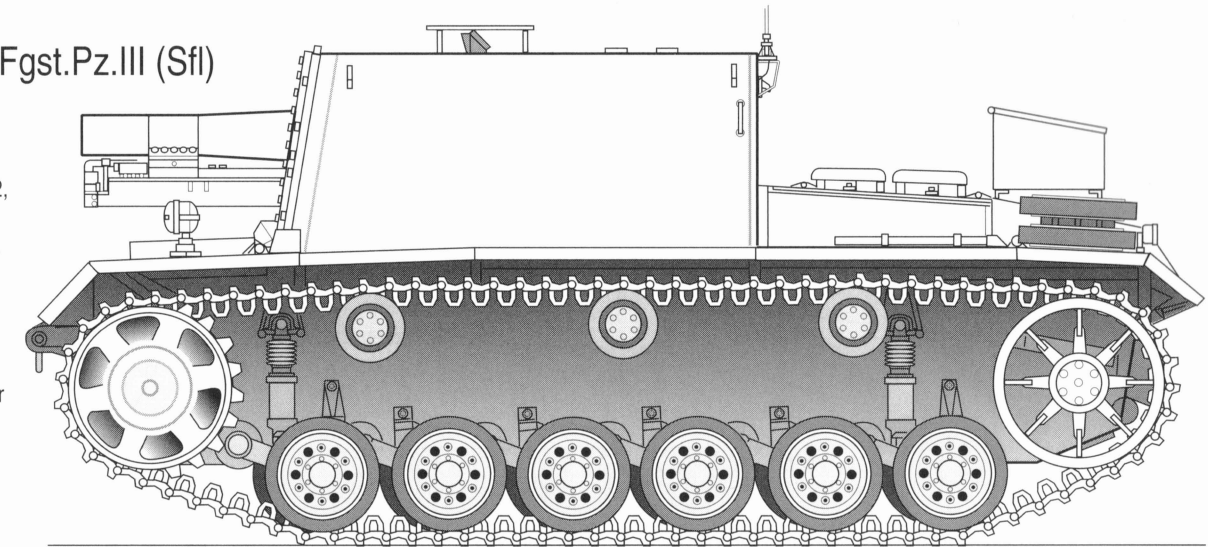
Experience with the PzJäger I led to the mounting of the 4.7cm Czech anti-tank gun on surplus French R35 chassis in 1941. A more enclosed superstructure with two side doors gave the crew better protection and an elevated rear stowage bin now overhung the rear deck. An order for 130 units was completed by July 1941, and more were ordered, for a total of 174 converted by October 1941. These were accompanied by 26 Pz.Kpfw. 35R(f) command vehicles. These Panzerjäger units were stationed mainly in France, but a few ended up in the Channel Islands also. About 100 were still in service in 1944 at the time of the Allied invasion.

# **Flakpanzer 38(t) auf Sfl 38(t) Ausf. M (Sd.Kfz. 140) 2cm FlaK38 L/55**



# **StuIG 33B 15cm sIG 33 auf Fgst.Pz.III (Sfl)**

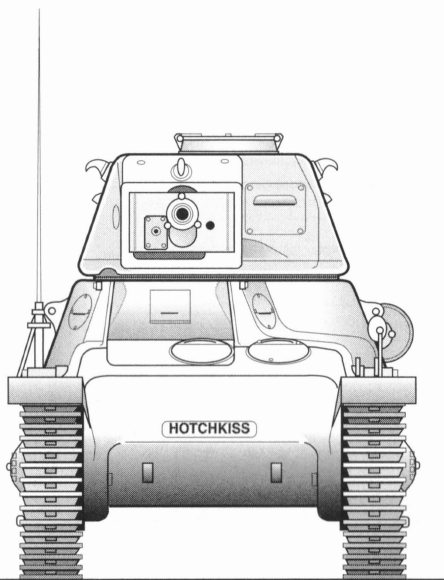
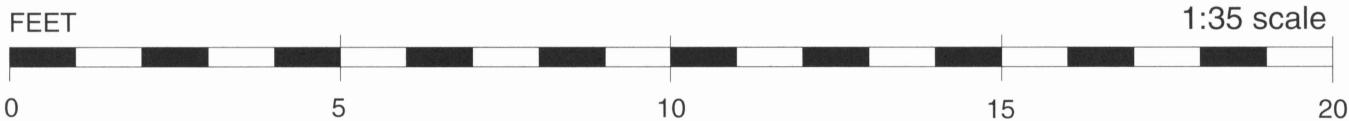
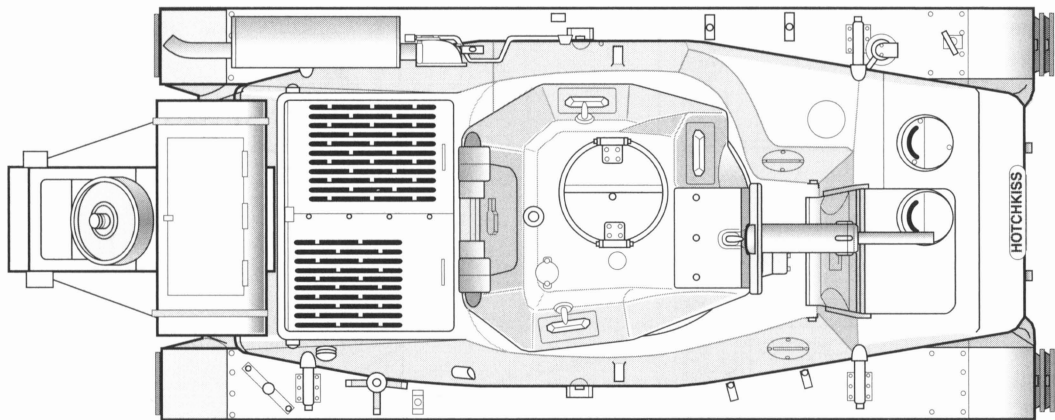
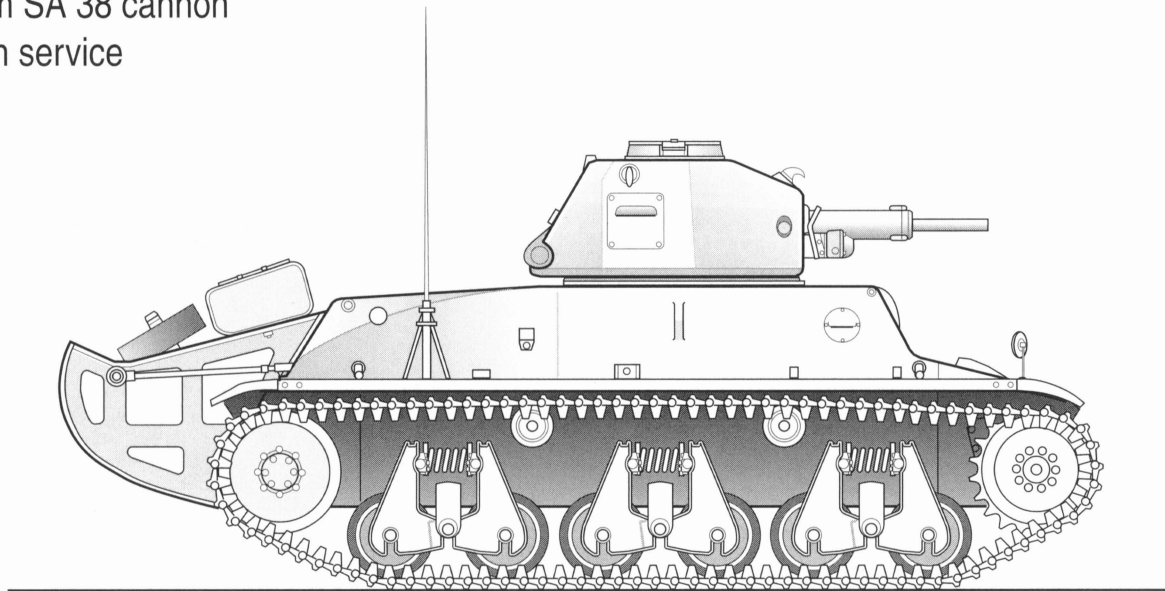
The sIG 33B utilized hulls of the StuG III Ausf D, E and F. As early as September 1942, and influenced by the heavy fighting for Stalingrad, it was decided that a new series of sIG 33 S/P guns would be built, this time utilizing the Pz.III chassis. The 15cm sIG 33 was deemed ideal for short range destruction of buildings during street fighting, but required an armored fighting compartment to survive.



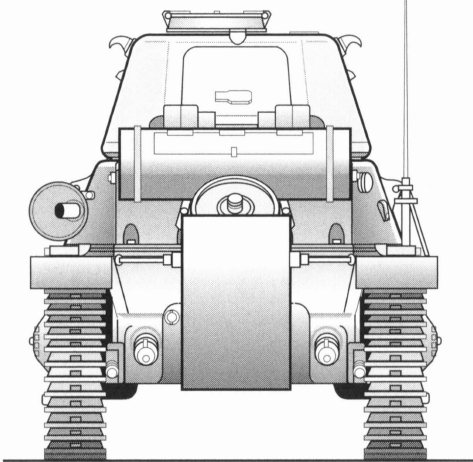


**Pz.Kpfw. 39H 735(f) Hotchkiss H-39**

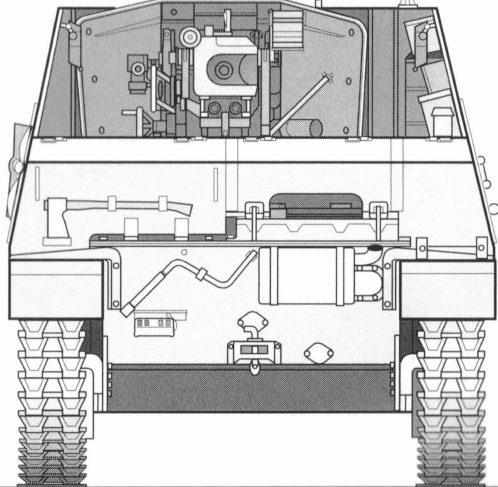
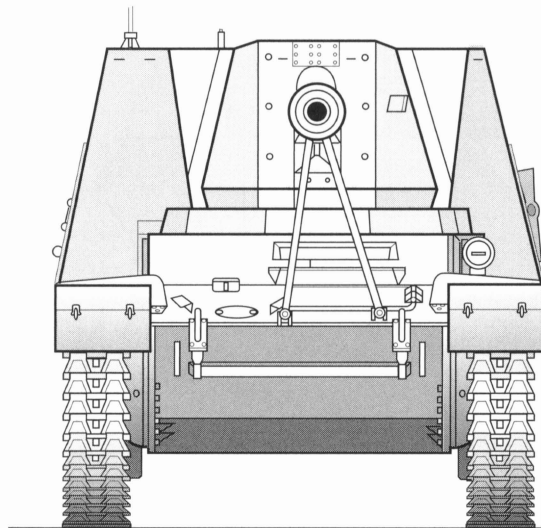
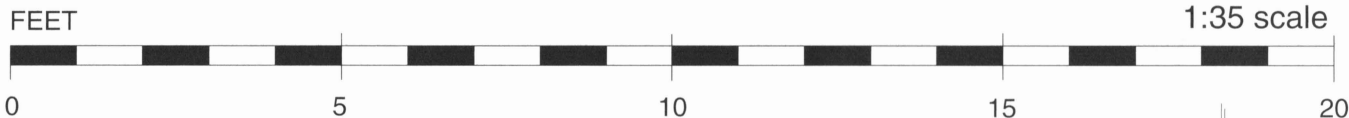
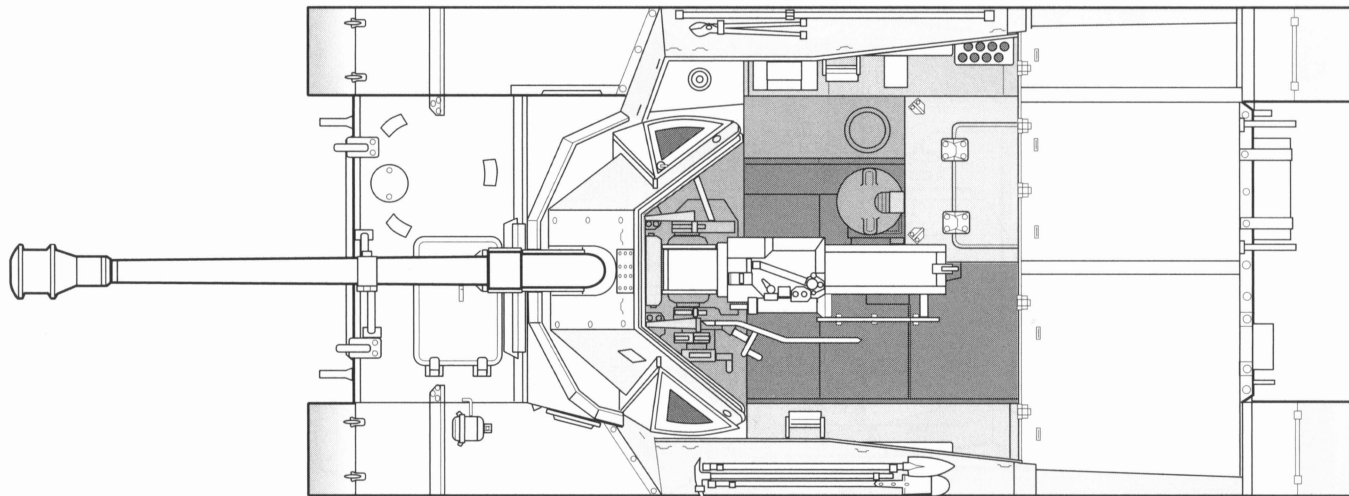
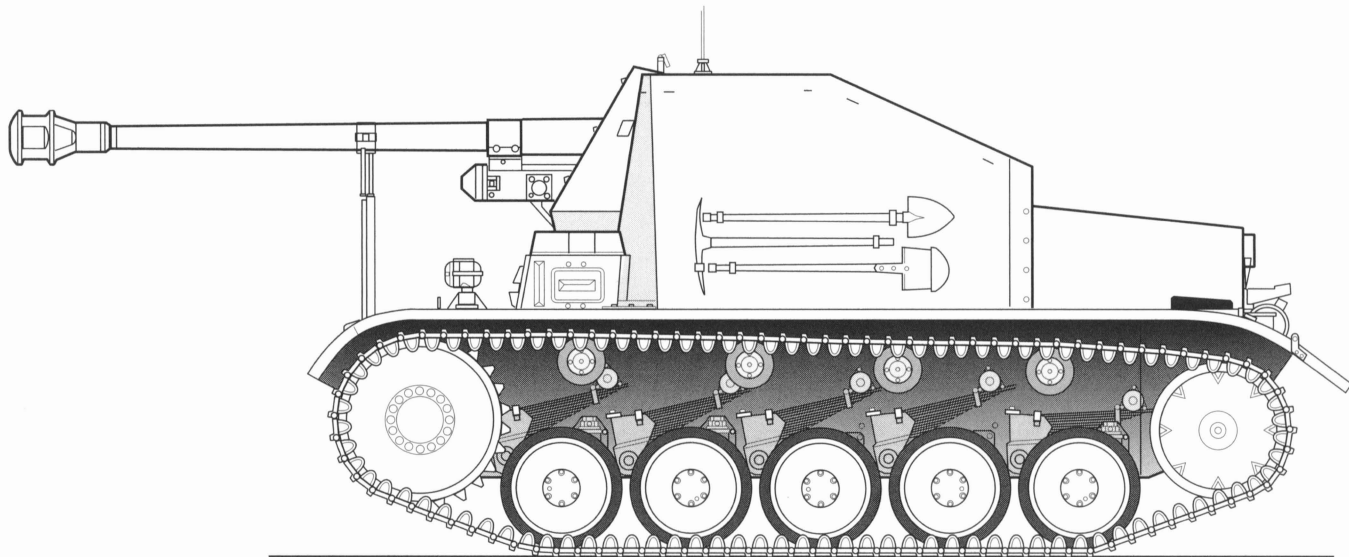
with 37mm SA 38 cannon  
in German service



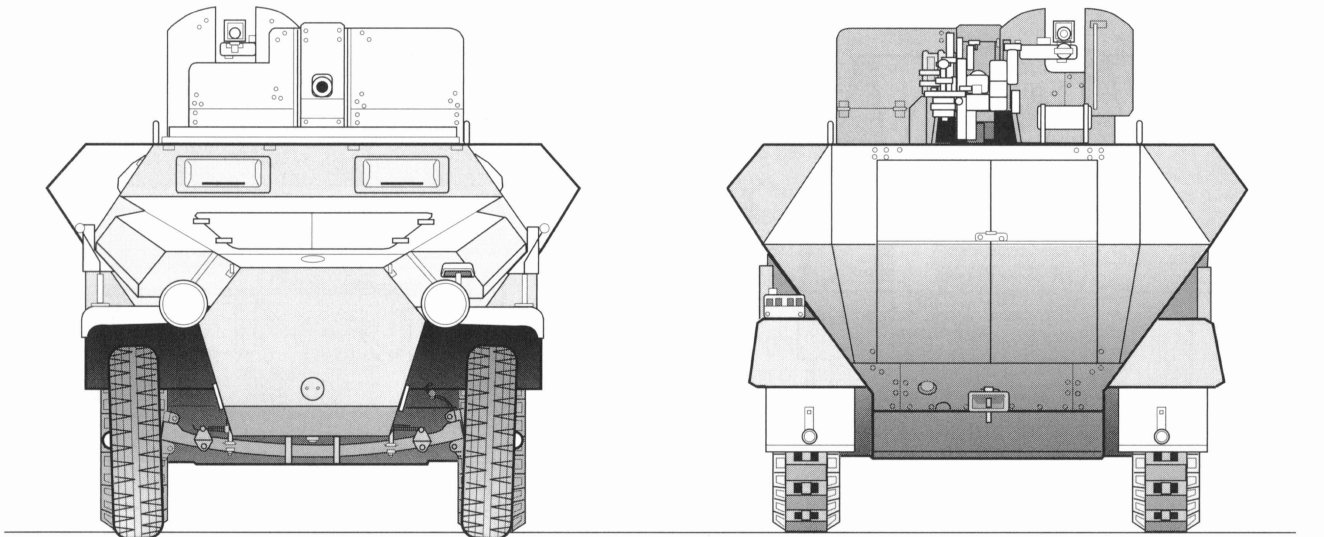
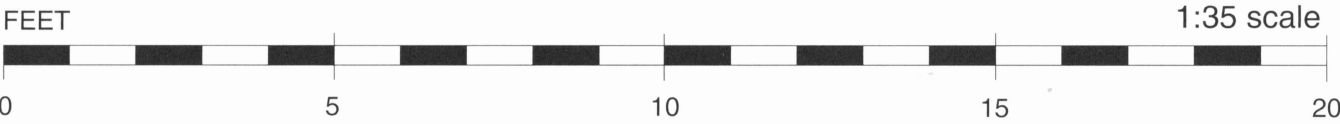
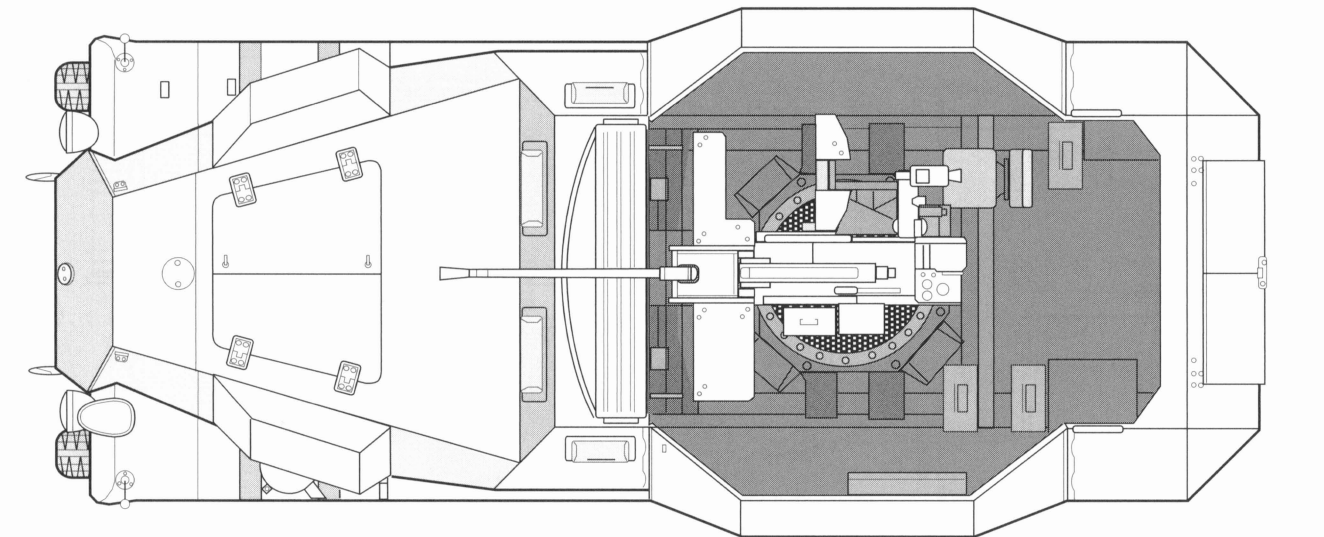
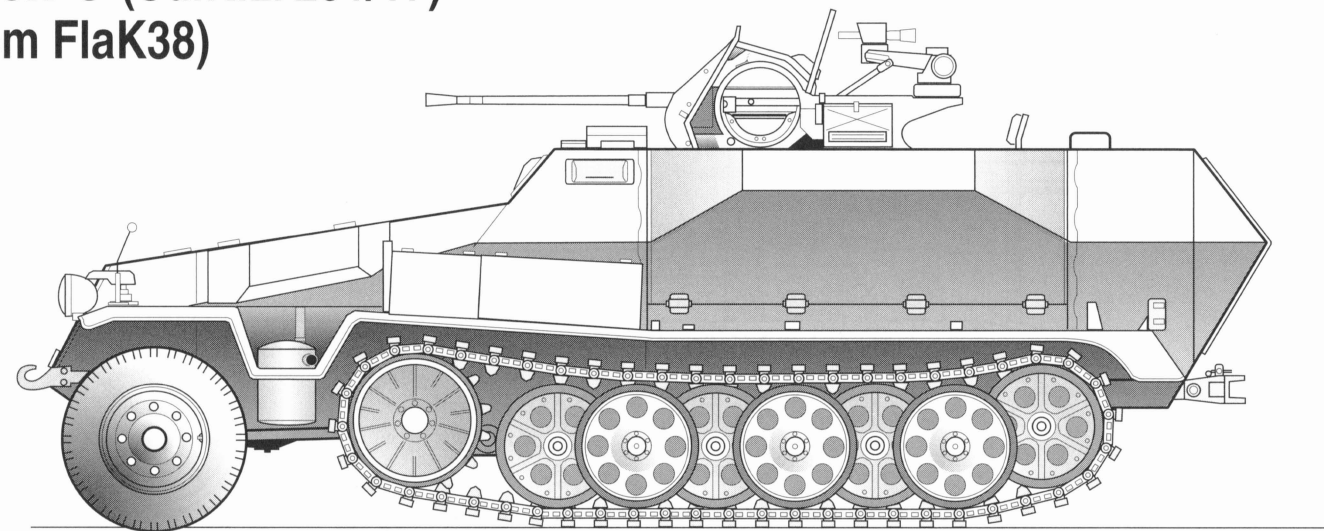
Germany inherited a mass of French tanks, among which were the survivors of the 800 H-39s used by the French Army Cavalry. A most practical light tank for training, coastal defense and partisan duties, these vehicles were soon in service with German troops. Minor alterations ensued, with a German style hinged split-hatch cupola replacing the original dome version, and a tripod aerial mount at the rear of the right mudguard for the wireless. Many of the H-39 had already been fitted with skid tails to improve their cross-country ability and most were left in place.



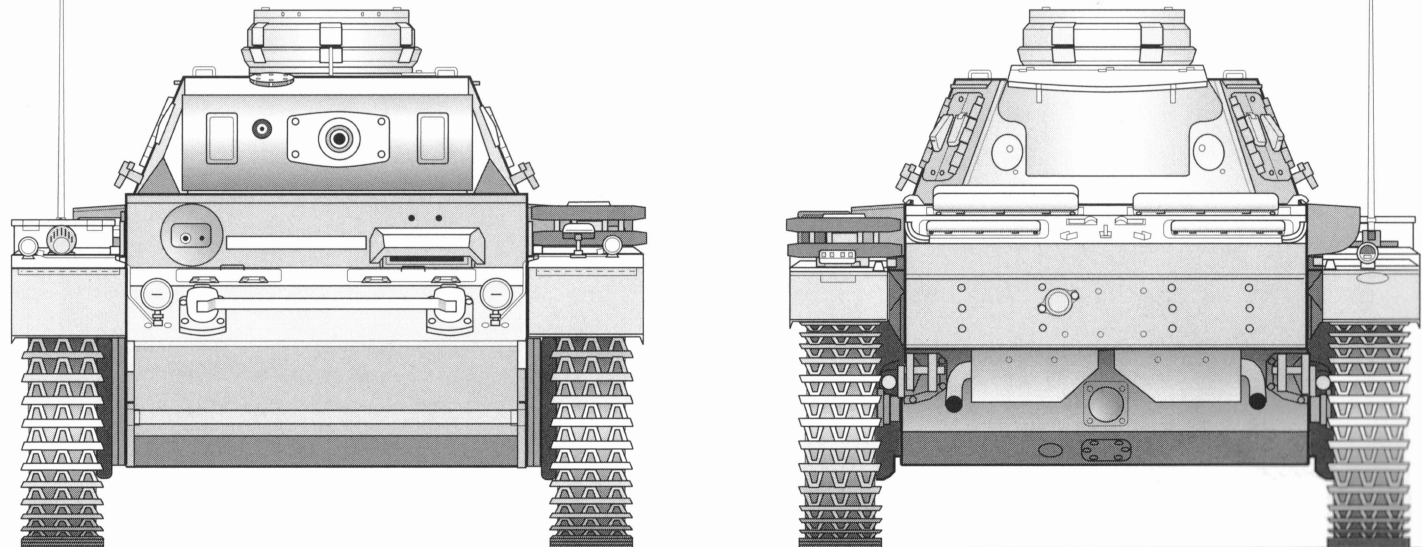
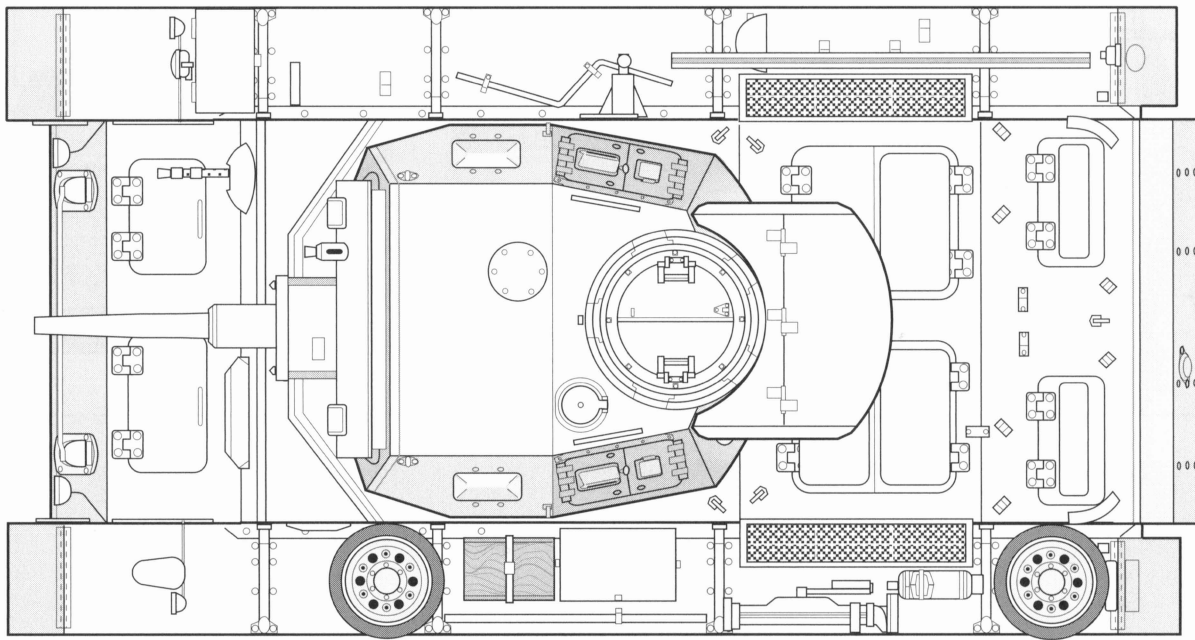
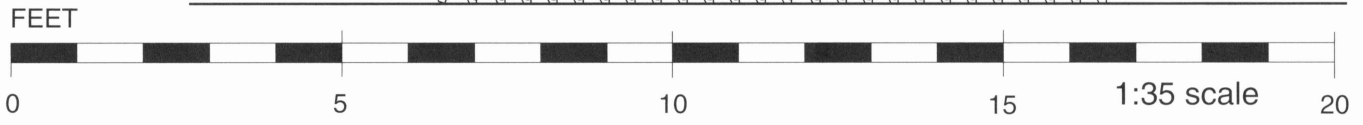
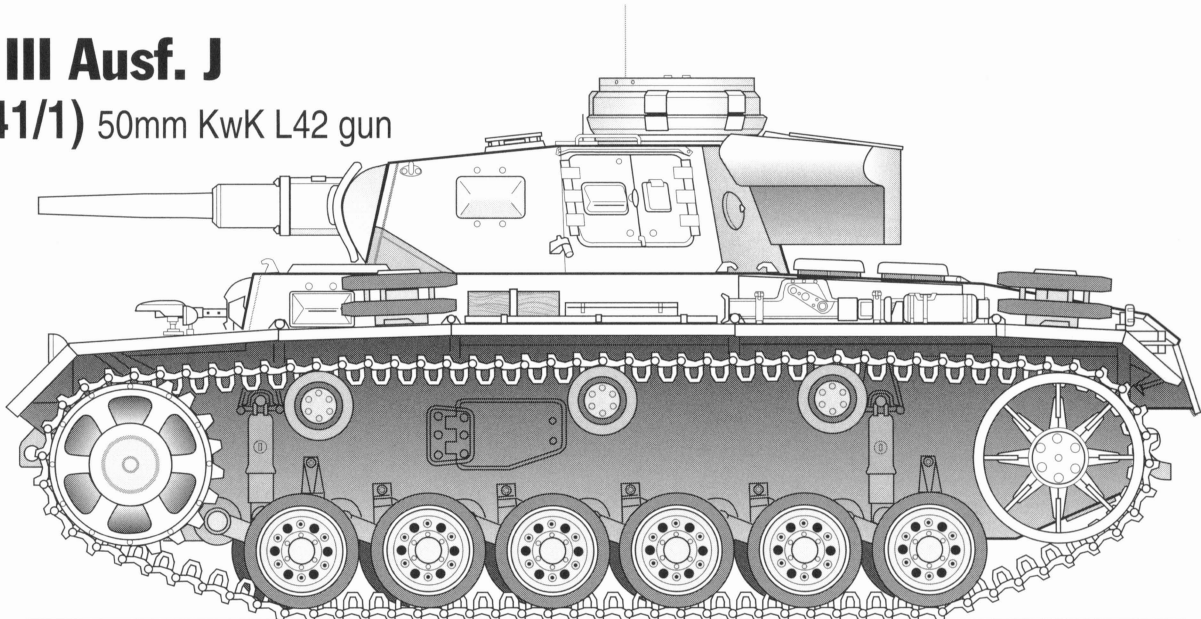
**7.5cm PaK40/2 auf Fgst Pz.Kpfw.II  
(Sf) (SdKfz.131) Marder II (Late)**



Mittlerer Schützenpanzerwagen  
Ausf. C (Sd.Kfz. 251/17)  
(2cm FlaK38)



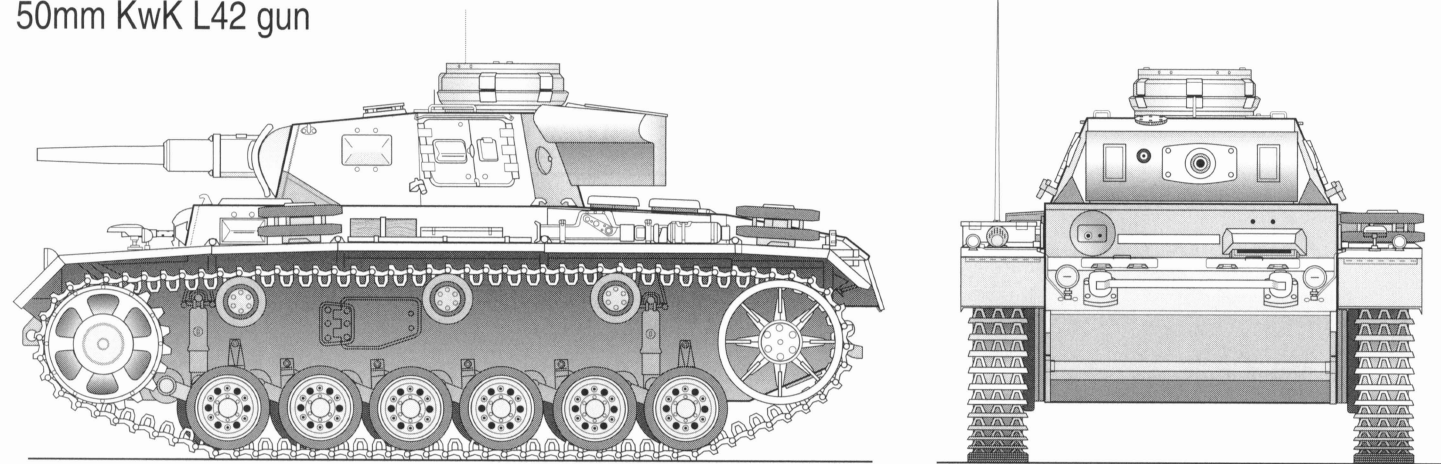
Pz.Kpfw. III Ausf. J  
(Sd.Kfz. 141/1) 50mm KwK L42 gun



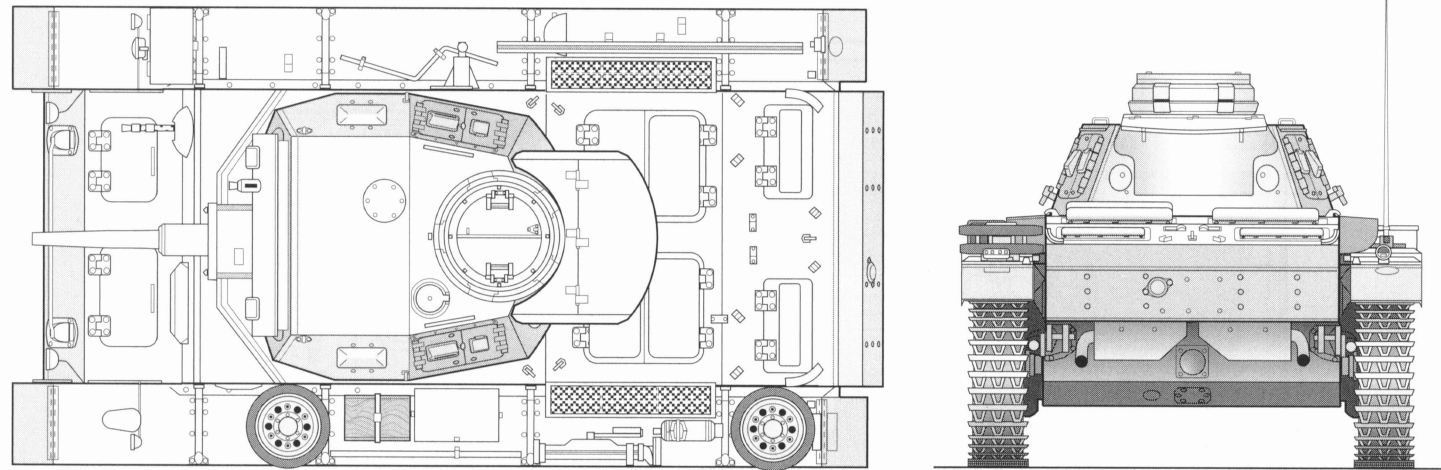


## Pz.Kpfw. III Ausf. J (Sd.Kfz. 141/1)

50mm KwK L42 gun



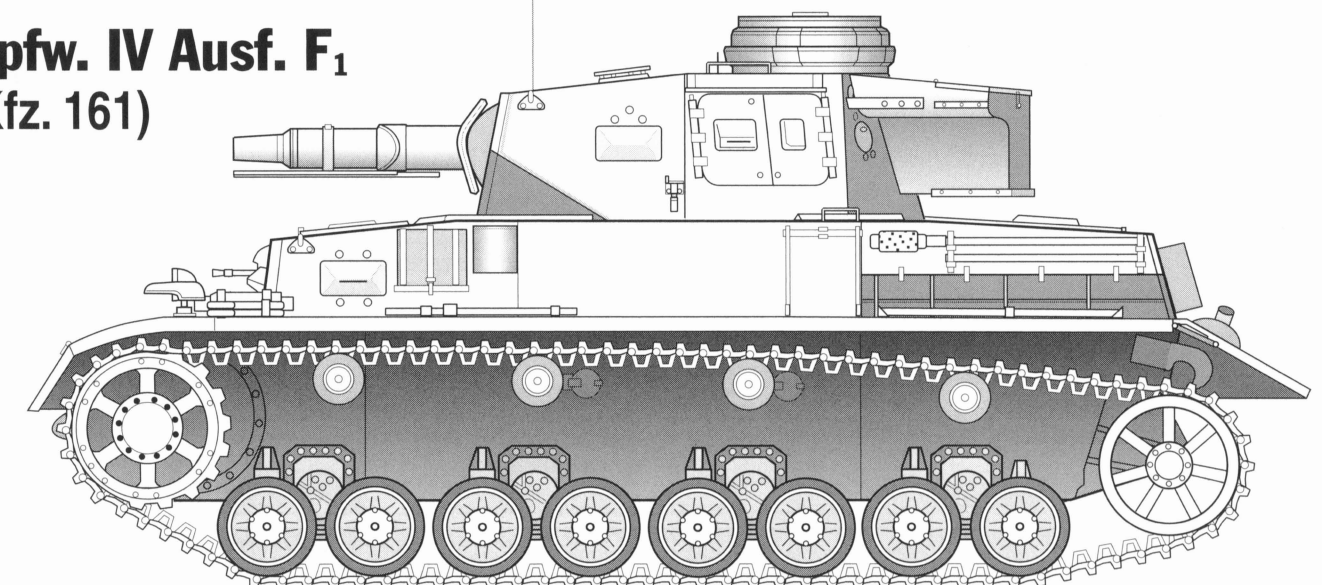
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0 5 10 15 20 1:48 scale



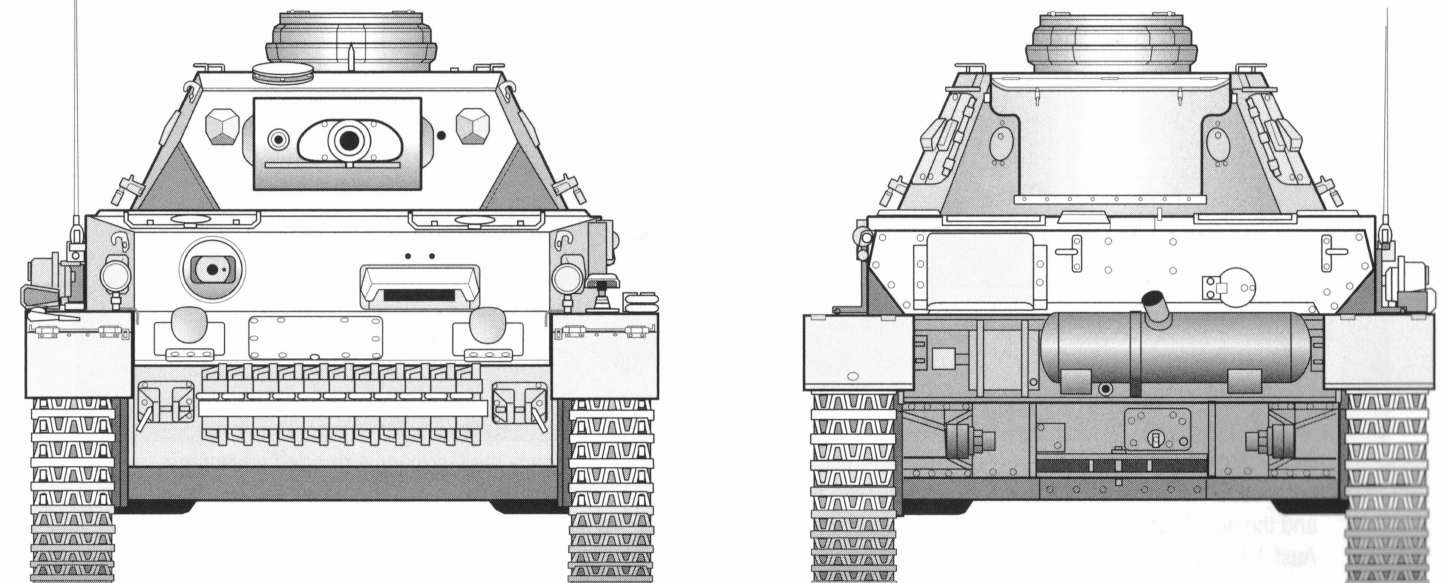
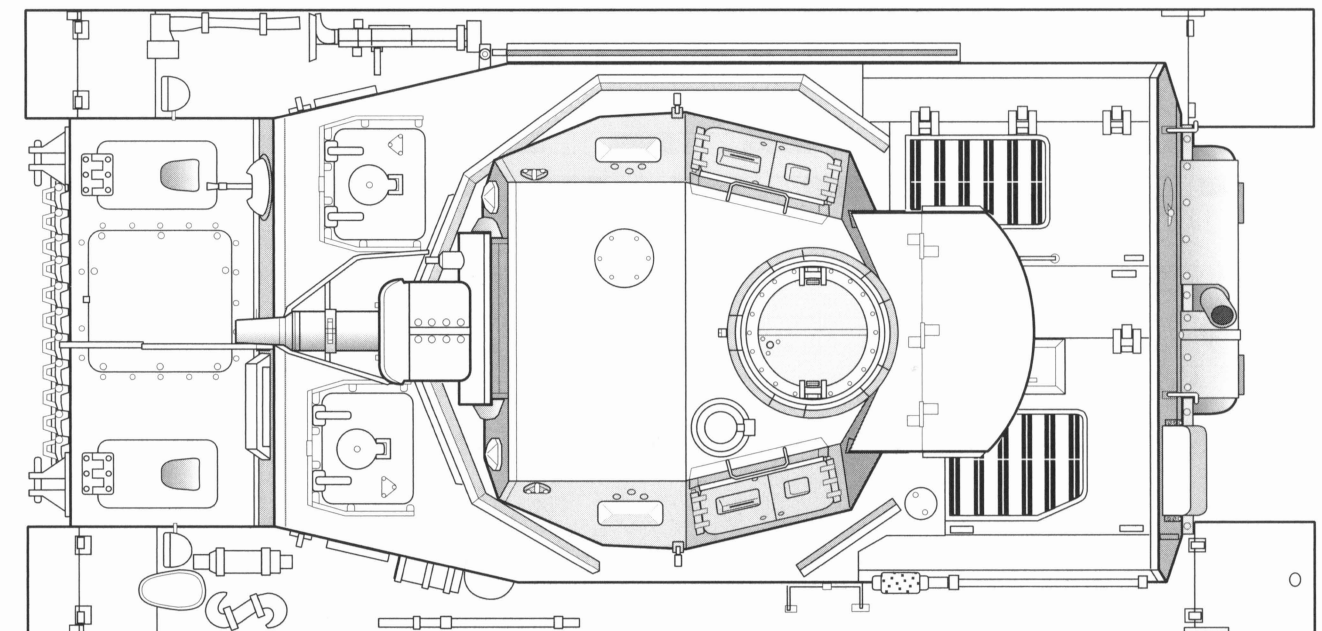
This Pz.Kpfw. III Ausf. J was put out of action by Australian anti-tank gunners in the Tel el Eisa area during the heavy fighting at El Alamein along the coastal area.

## Pz.Kpfw. IV Ausf. F<sub>1</sub>

(Sd.Kfz. 161)

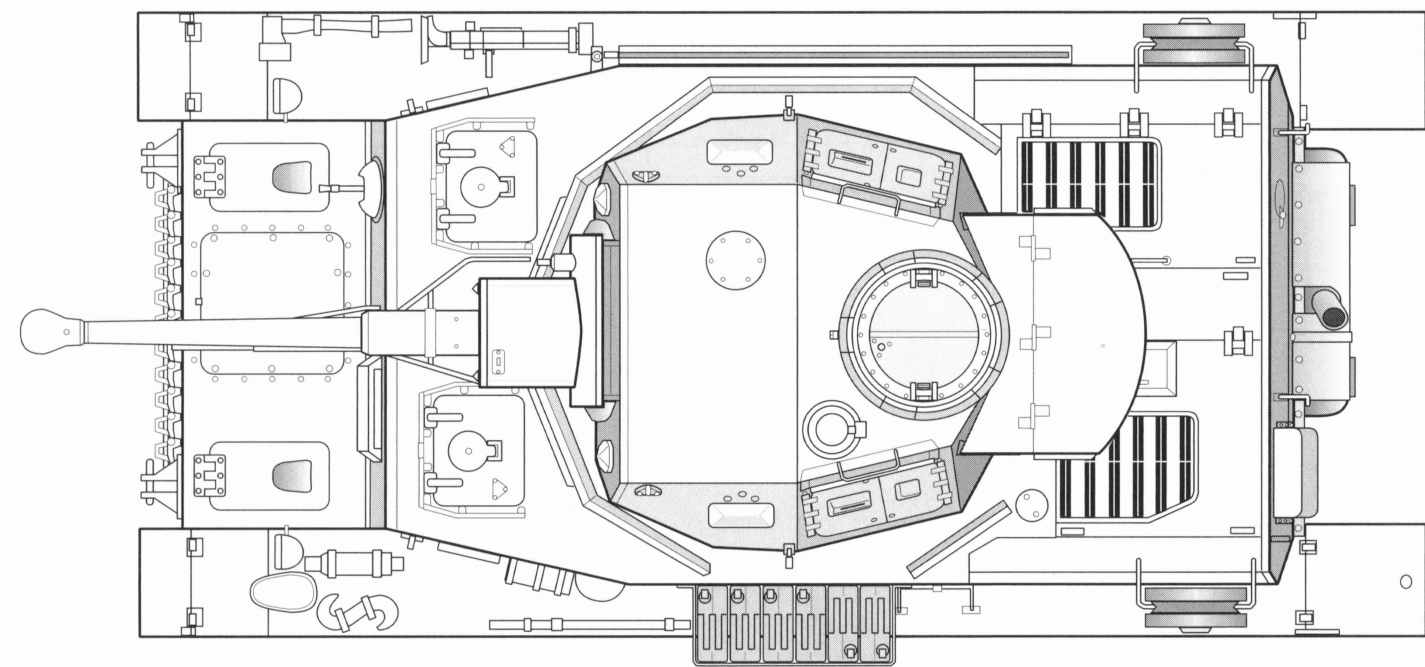
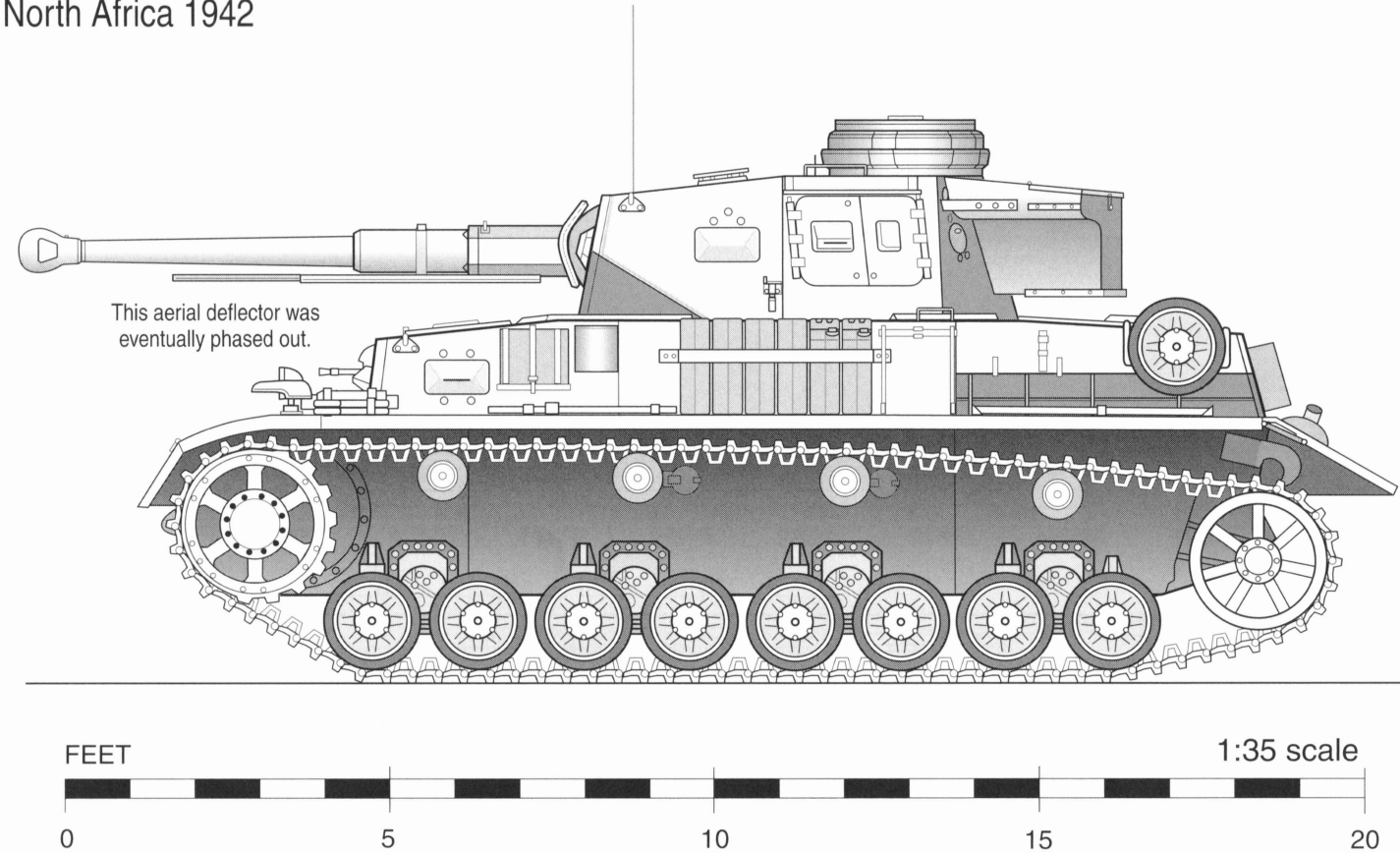


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0 5 10 15 20 1:35 scale





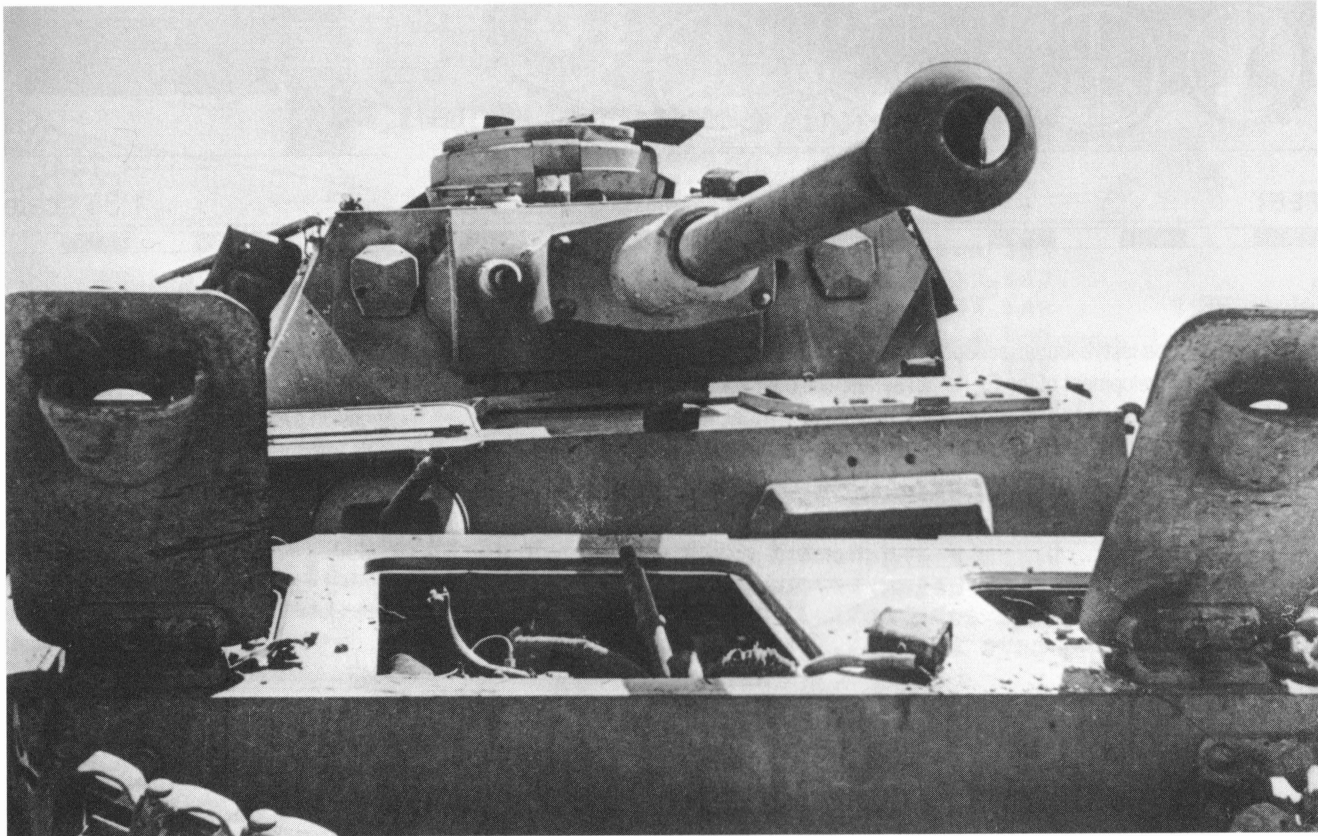
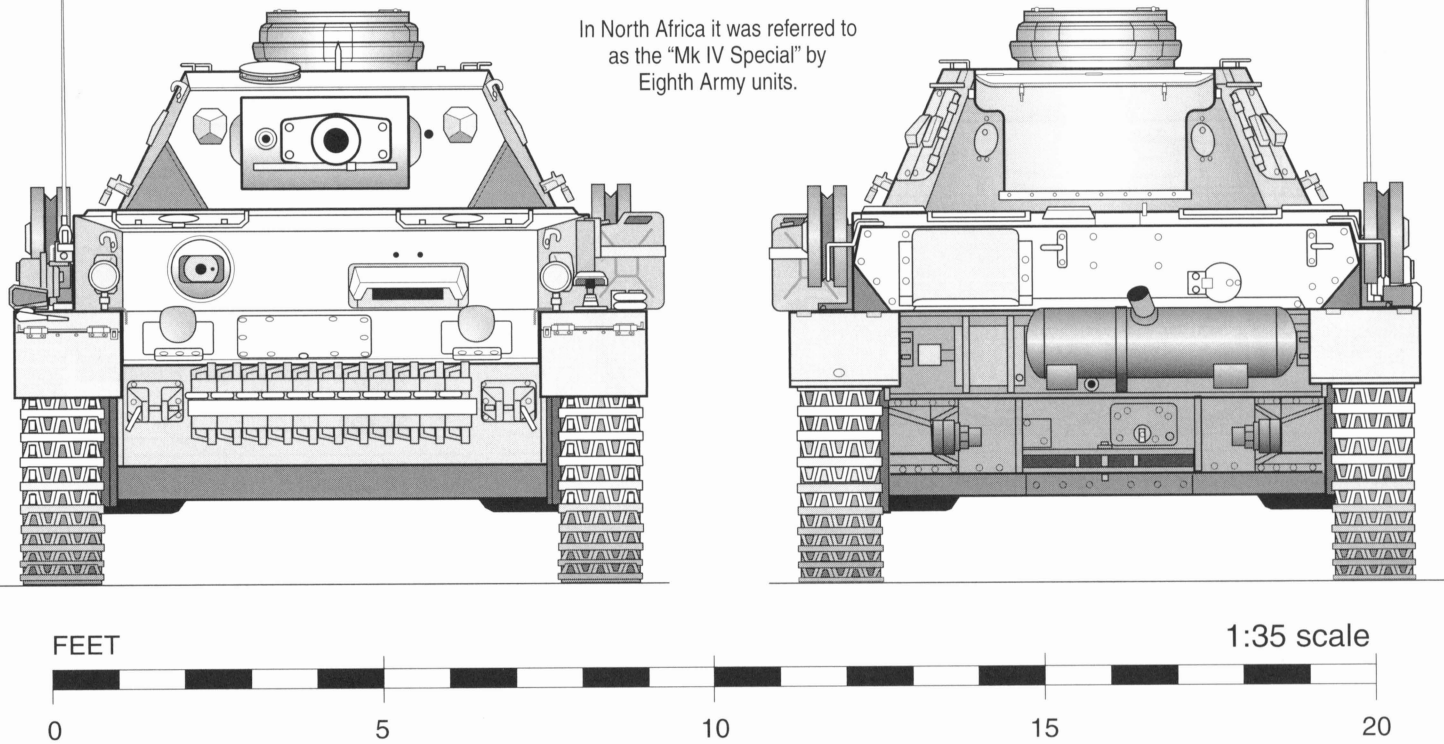
**Pz.Kpfw. IV Ausf. F<sub>2</sub> (Sd.Kfz. 161/1)**  
North Africa 1942



In April, 1942 Hitler had insisted that the short 7.5 cm KwK37 L/24 presently mounted on the Pz.Kpfw. IV should be replaced by the new 7.5 cm KwK40 L/43 gun. At that time it was the Ausf. F version that was the latest production model, and to differentiate between the older and the new Ausf. F models, they were designated as Ausf. F1 and F2.

The first F2 models began coming off the assembly line in the spring of 1942, and saw service both in North Africa and on the Russian Front. This long 75 mm AP gun gave the Germans a decided advantage on all fronts during the summer of 1942, but would soon be replaced by the Ausf. G model

**Pz.Kpfw. IV Ausf. F<sub>2</sub>**

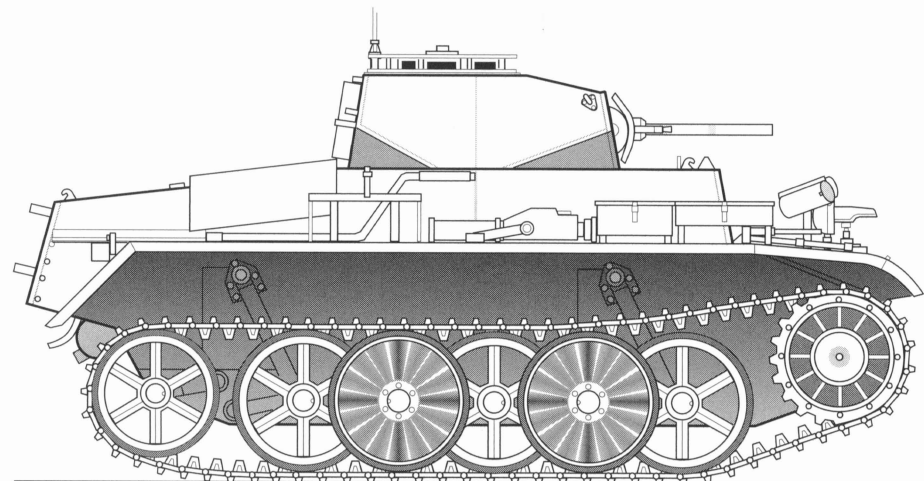
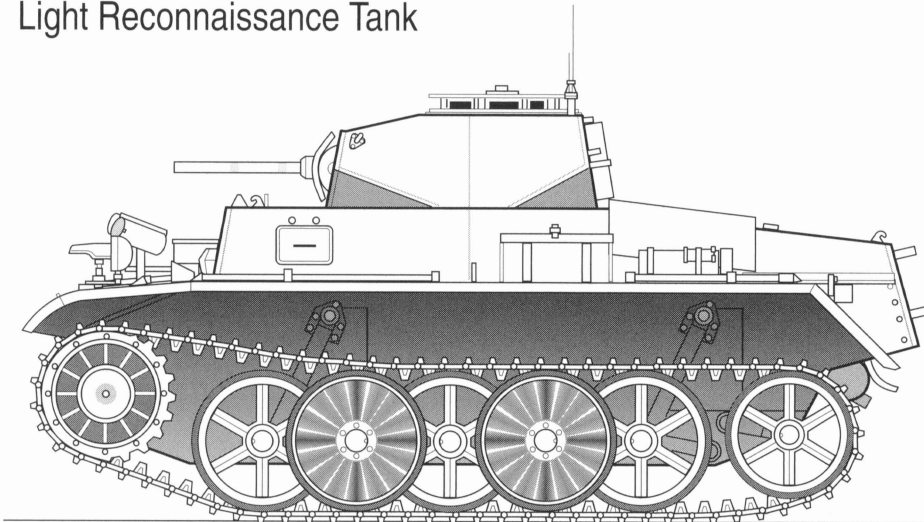


A Pz.Kpfw. IV Ausf. F2 destroyed by British anti-tank fire during the El Alamein battles.

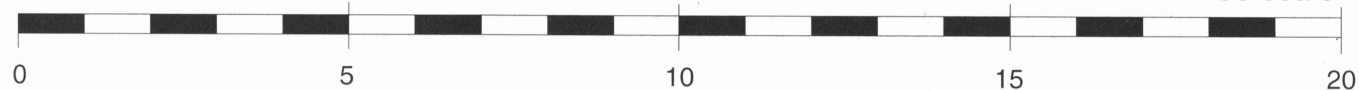


## Pz.Kpfw. I Ausf. C (VK 601, Pz.Kpfw. I nA)

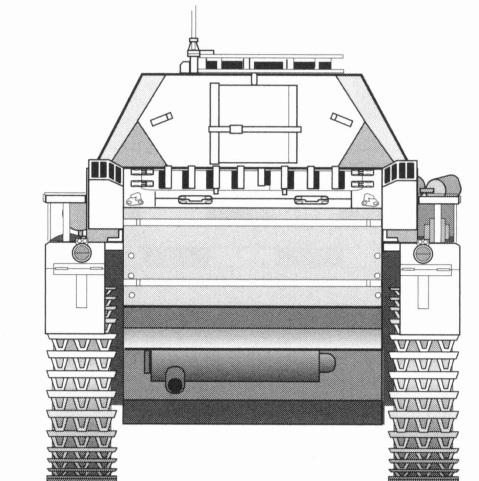
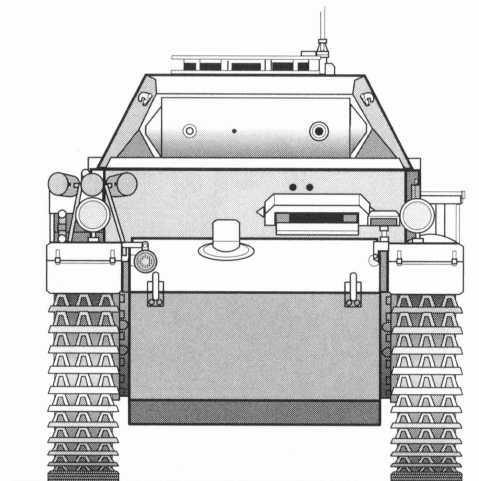
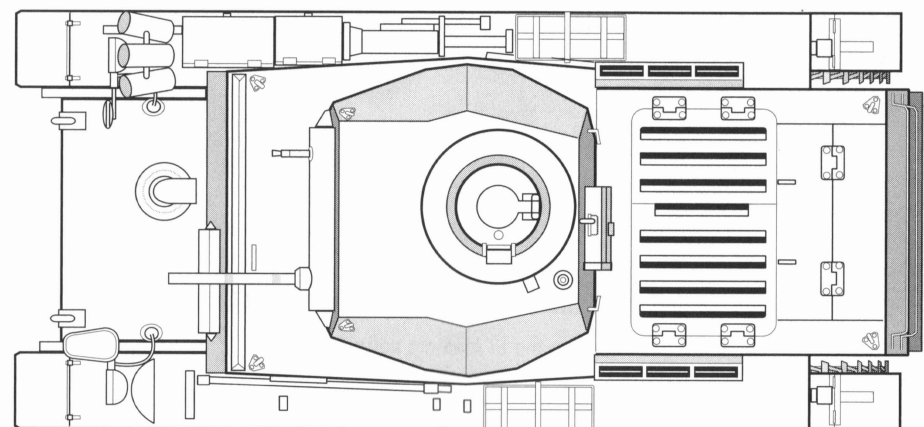
Light Reconnaissance Tank



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Demand by the Army for a fast reconnaissance vehicle with heavier armor than the early vehicles led to further development of the Pz.Kpfw. I series. The contract for development of the chassis of this vehicle was given to Krauss-Maffei in September of 1939, with Daimler-Benz assigned to design the turret and superstructure. The turret armament would be a large calibre machine gun, the EW141, coaxially mounted with an MG34, and supported a two man crew.

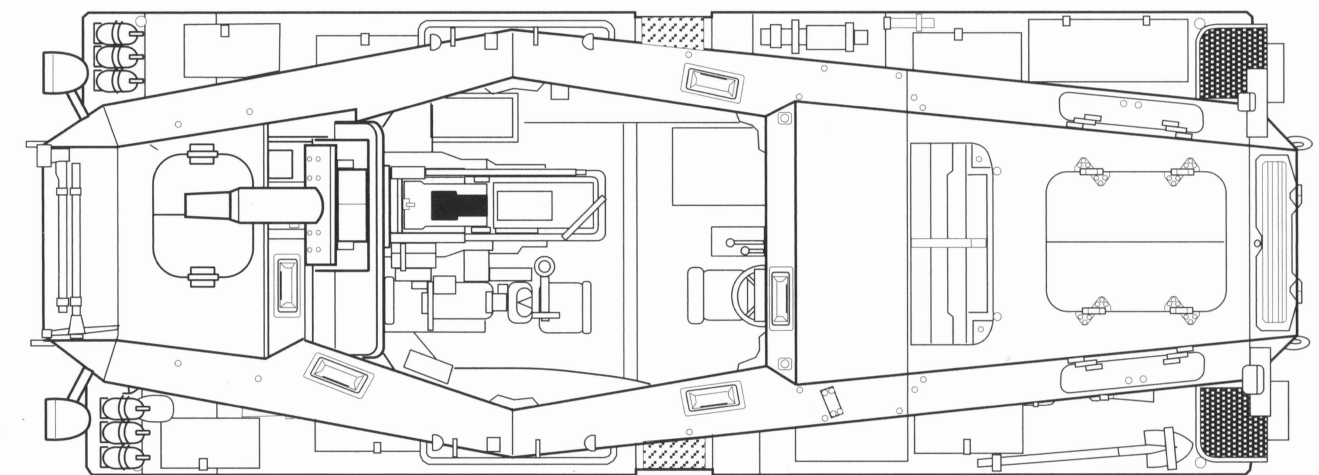
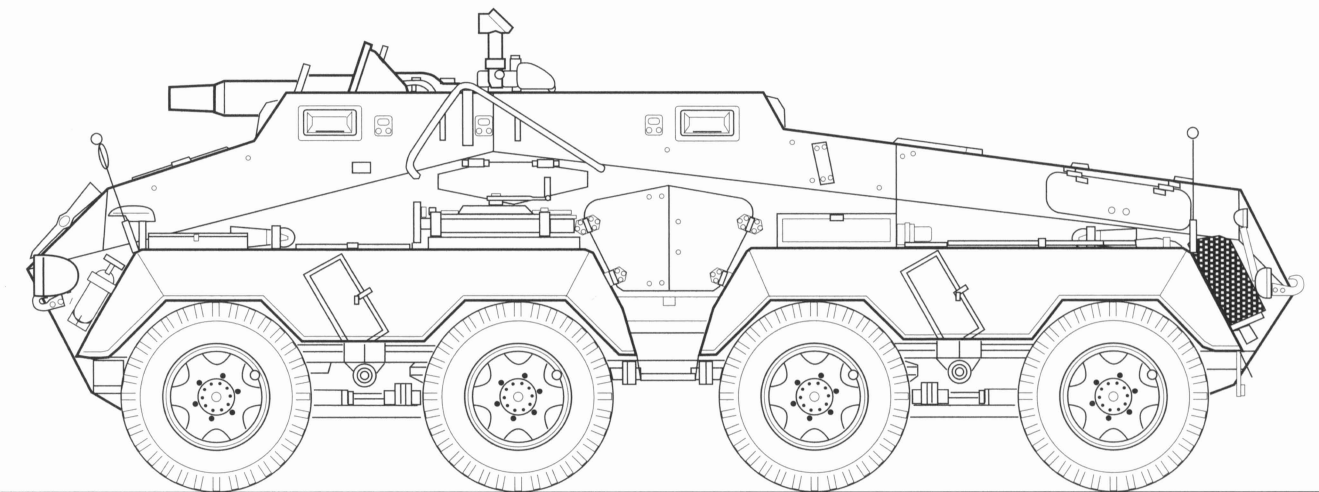


1:35 scale

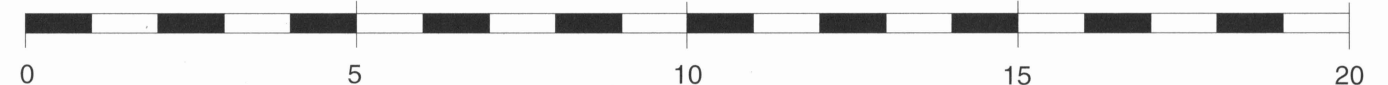
The Pz.Kpfw.I Ausf. C was obviously a completely different design from the earlier Ausf. A and B. The suspension system of large overlapping road wheels with torsion bar suspension allowed the tank to achieve very high speeds of up to 65 kph. The armor thickness was now double that of the earlier models, and correspondingly the weight verged on 8 tons. The original prototype was fitted with self-lubricating tracks, but a dry pin system was adopted before it was issued to combat units in 1943.

However, by 1943 there was little call for lightly armored vehicles of this sort and production was discontinued. At least two Pz.Kpfw.I/Cs were issued to the 1st Panzer Division in early 1943 for evaluation on the Russian front. The remaining 38 produced were eventually issued to units of the LVIII Pz Res Korps (Reserve Tank Corps) during the invasion of Normandy in 1944.

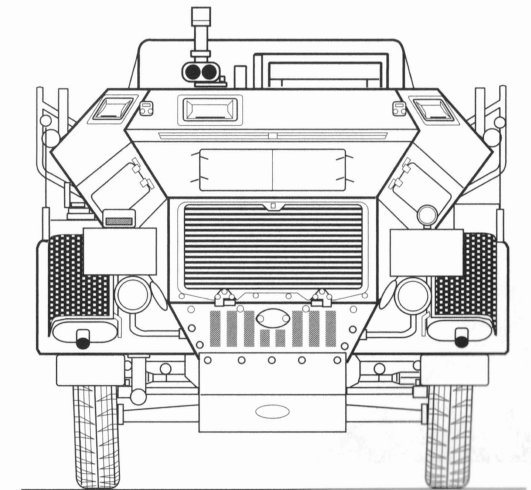
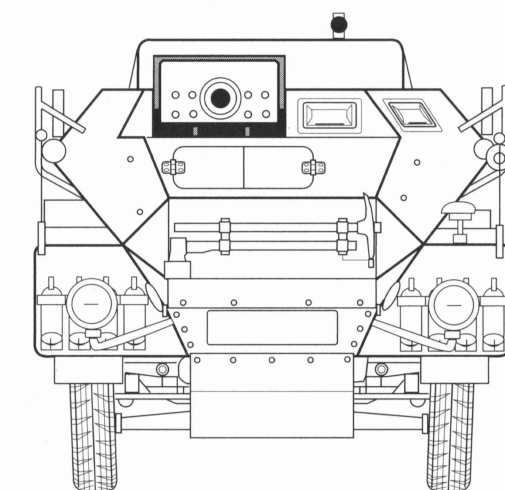
## Schwerer Panzerspähwagen (75mm) (Sd.Kfz. 233)



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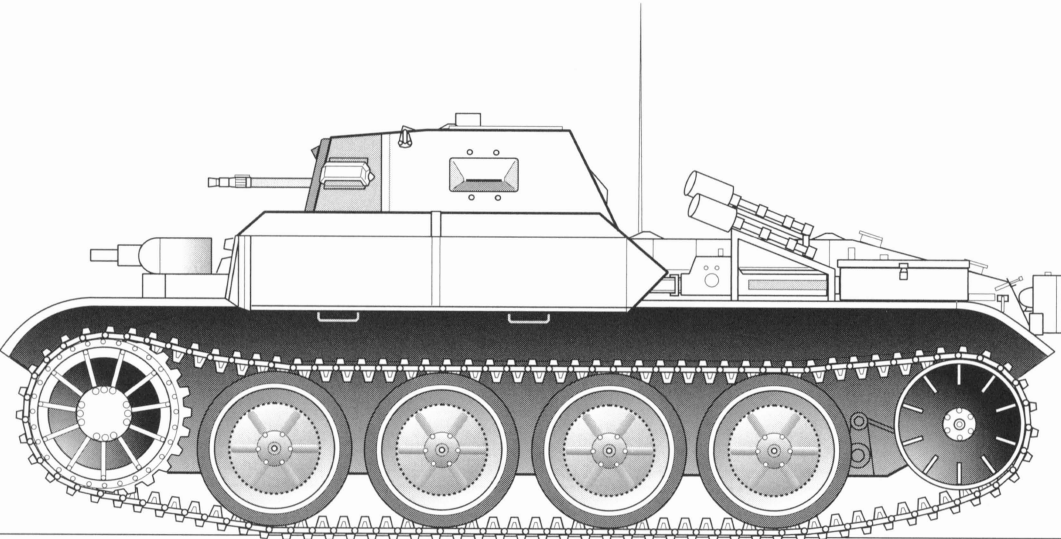


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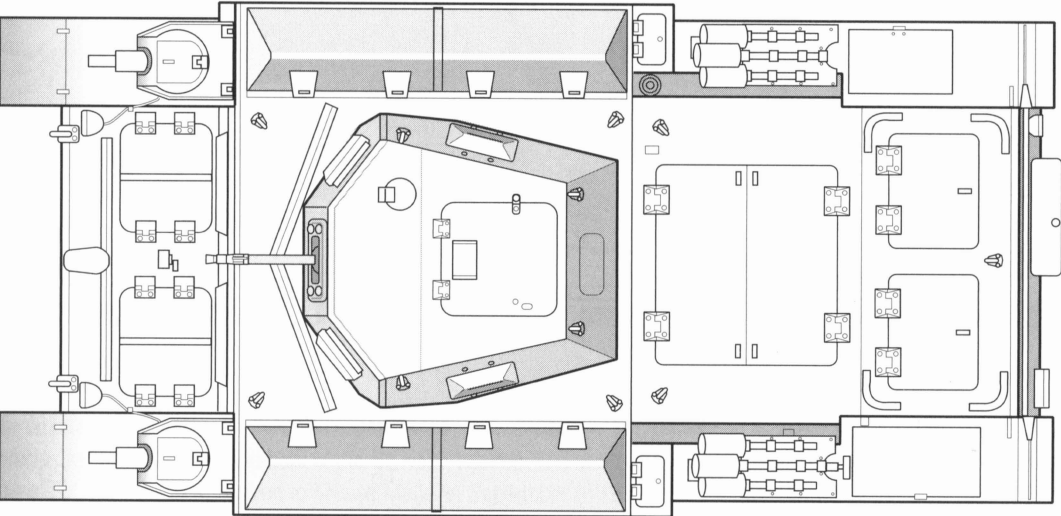
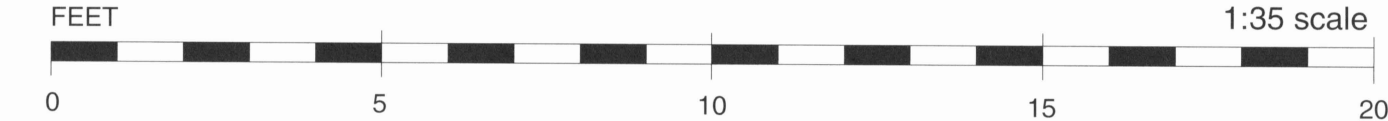
Pz.Kpfw. II Flamm (Sd.Kfz. 122)

Light Flamethrower Tank on Ausf. E chassis

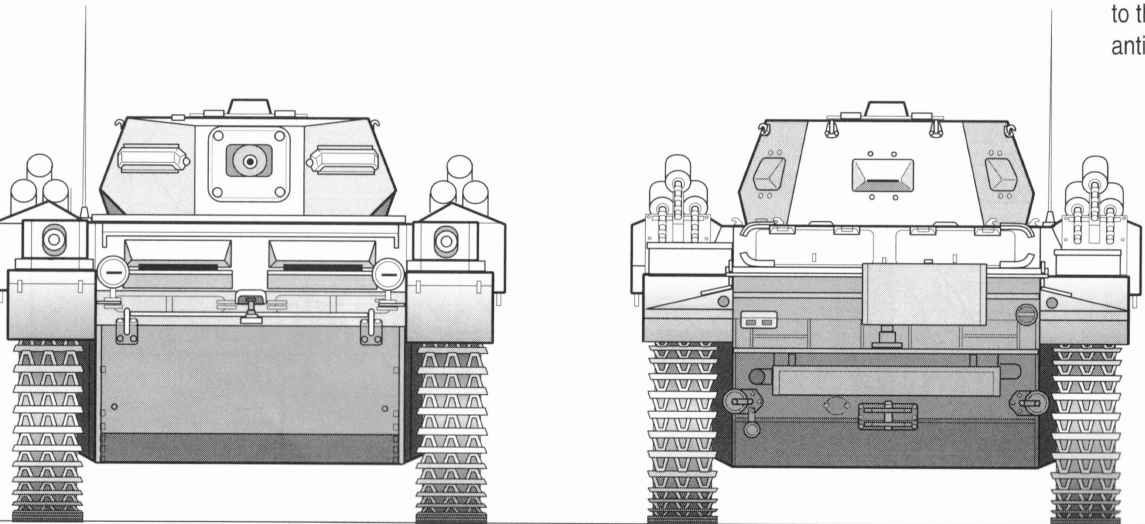


As early as 1939, plans were being drawn up for a flamethrowing tank and a series of 3 test vehicles were built. These were conversions on the Pz.Kpfw. II Ausf. D chassis, which had been deemed unsatisfactory for regular service, and eventually an order for 90 such vehicles was placed in early 1940. A second order for 150 was eventually cancelled in late 1941 after about 65 had been completed.

The flame projectors were small rotating mounts on each side at the front, and traversed 180 degrees. Capacity was about 80 bursts of 2-3 second duration, but the range was a mere 35 meters. The 2-man crew had a single MG 34 mounted centrally in a unique turret.

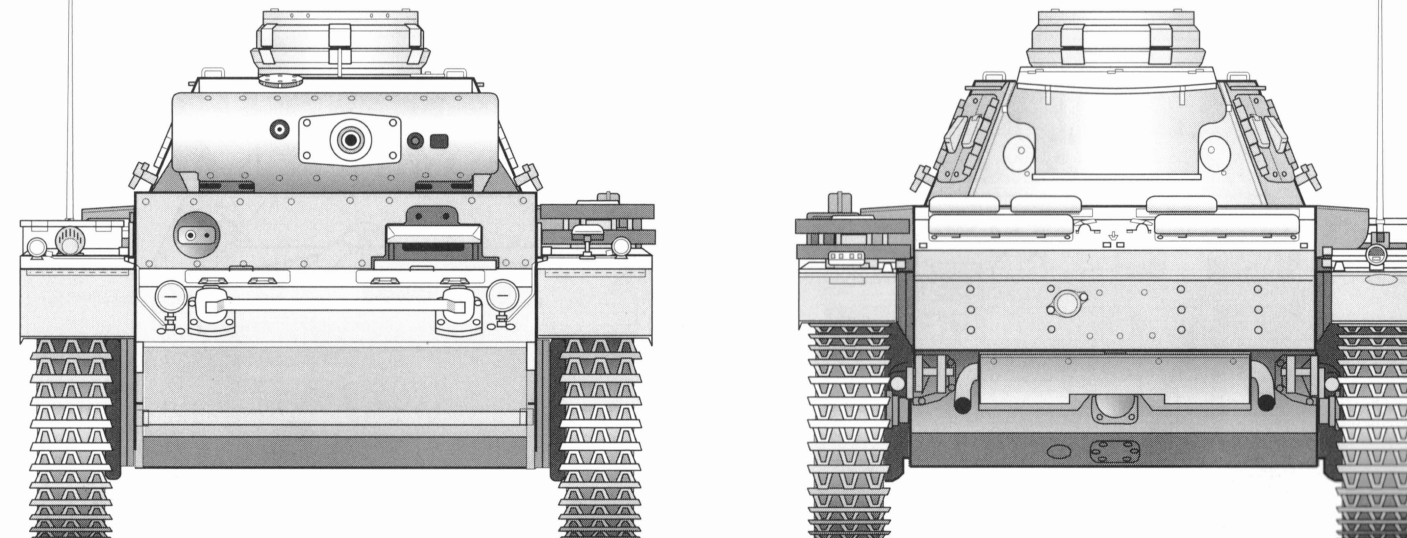
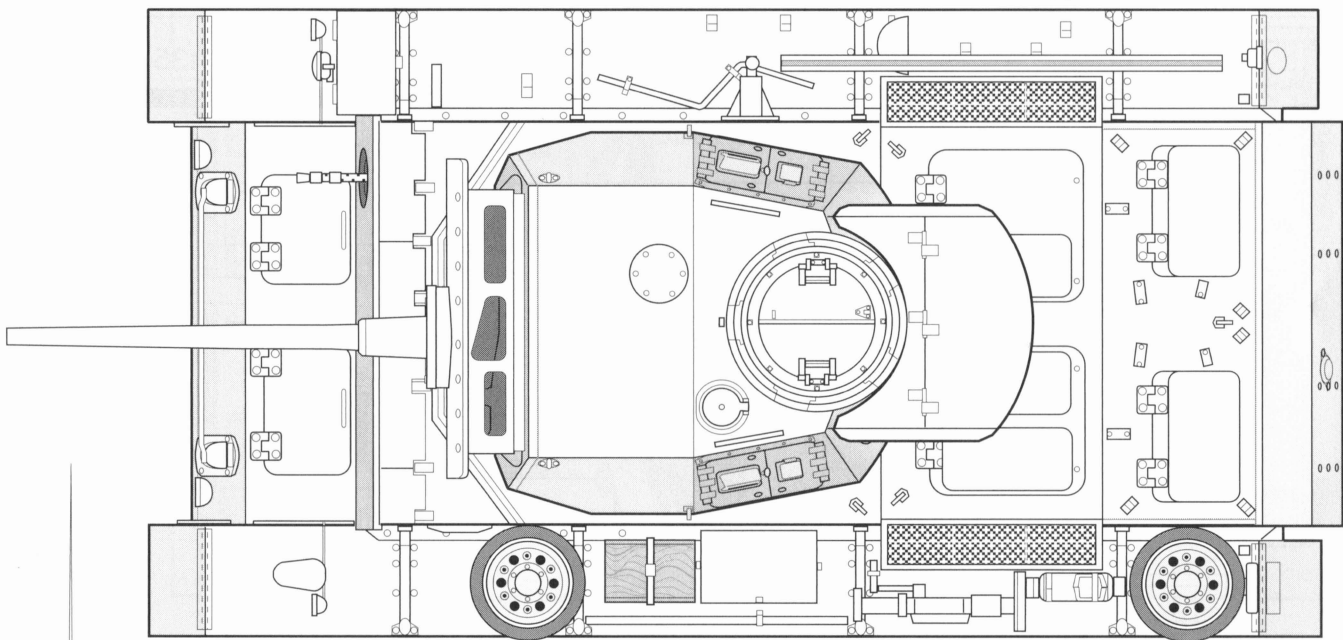
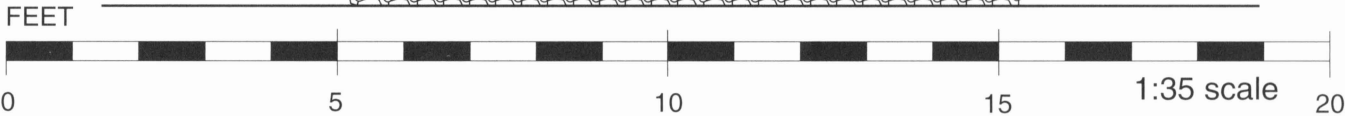
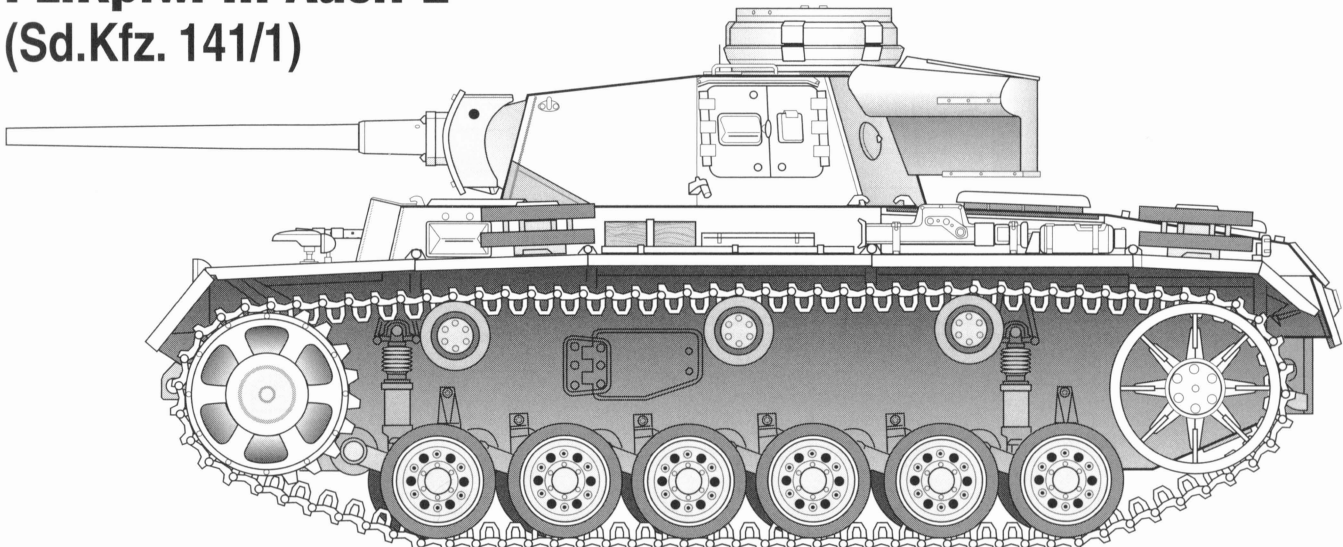


These vehicles were first pressed into service on the Russian front in June of 1941. In all about 155 of these flamethrowing tanks existed, 112 from direct production, and an additional 43 converted from Pz.Kpfw. D & E. They were with two special Panzerabteilungen that had been trained to act as close-support units. These units proved to be too large and unwieldy for the role they were to fill, and in early 1942 they were reorganized as normal Panzer units and the Pz.Kpfw. II (Fl) vehicles were sent back to Ordnance to be converted to the 7.62cm PaK36(r) (Sf) S/P anti-tank guns.



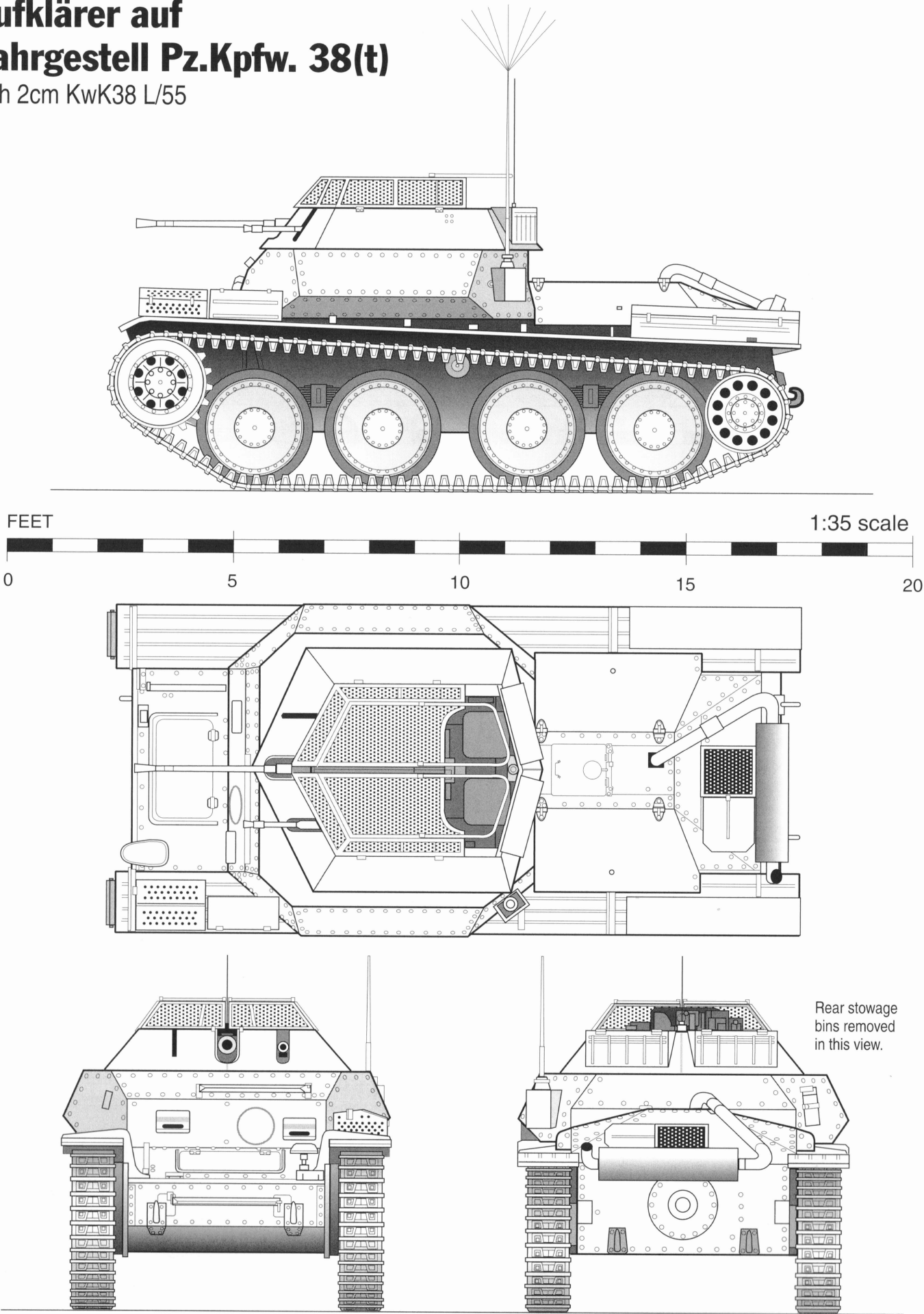
The flame fuel was carried internally, but the compressed nitrogen which propelled it was fitted externally inside armored covers over the fenders. There were two removable cylinders per side.

Pz.Kpfw. III Ausf. L (Sd.Kfz. 141/1)

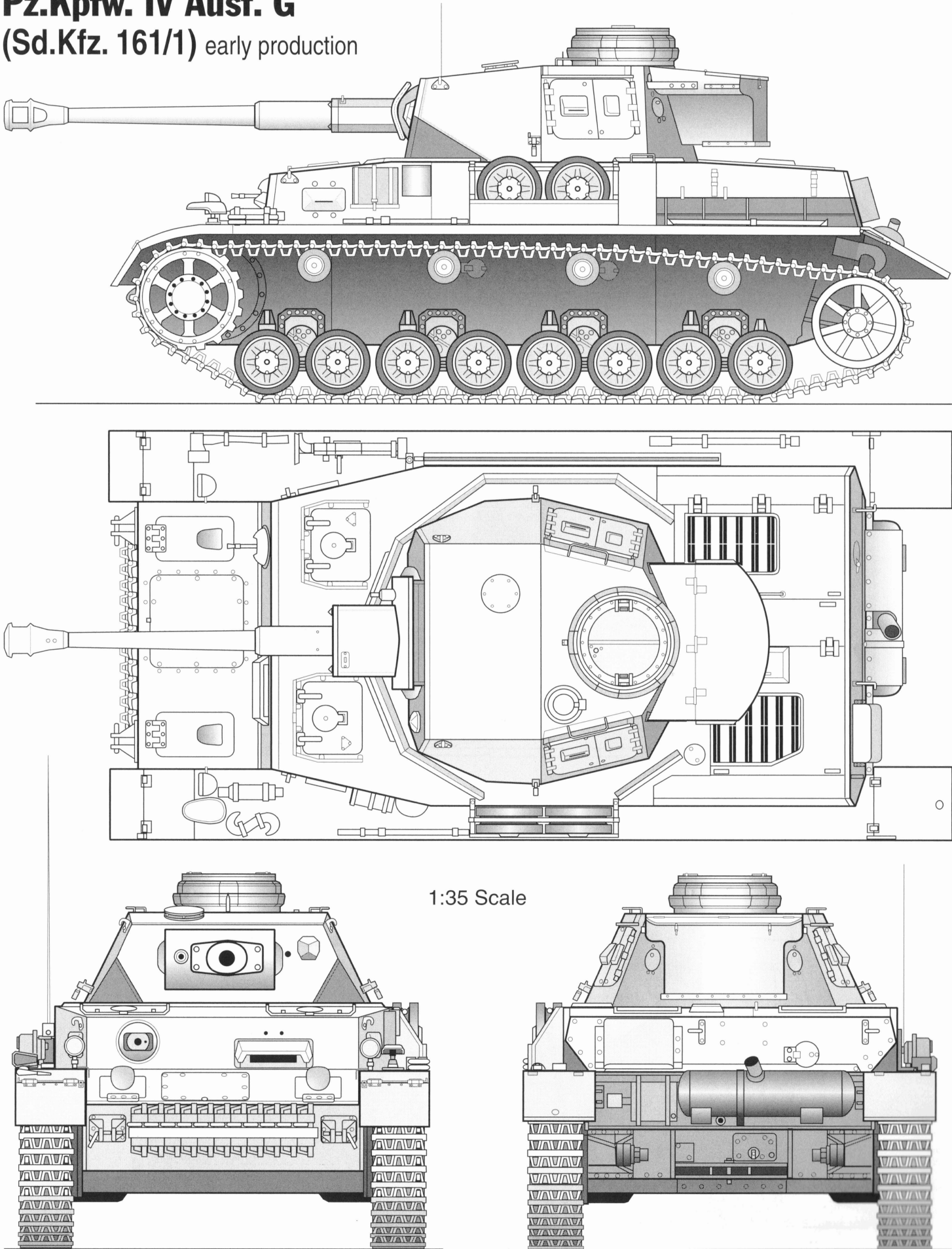




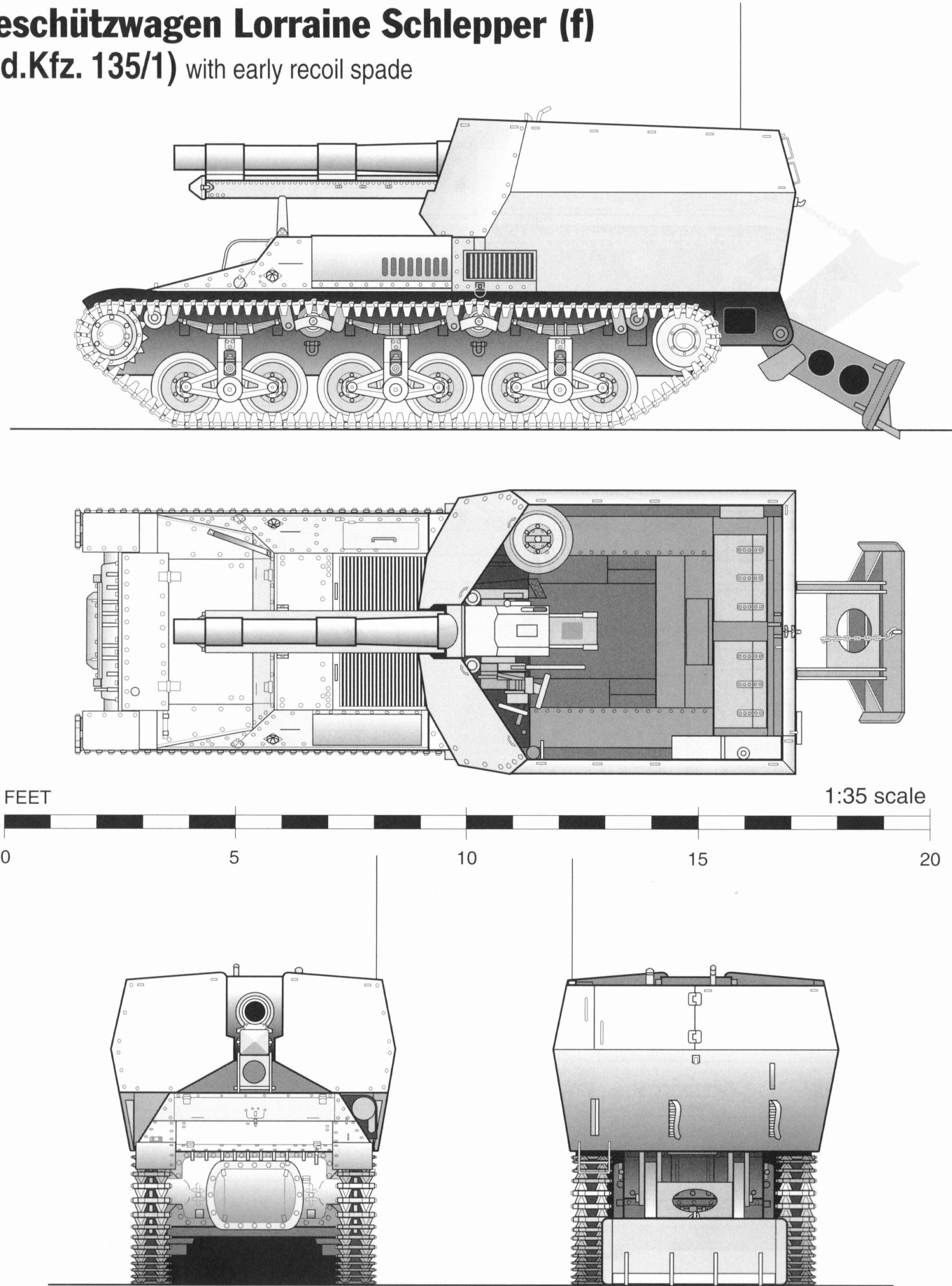
Aufklärer auf  
Fahrgestell Pz.Kpfw. 38(t)  
with 2cm KwK38 L/55



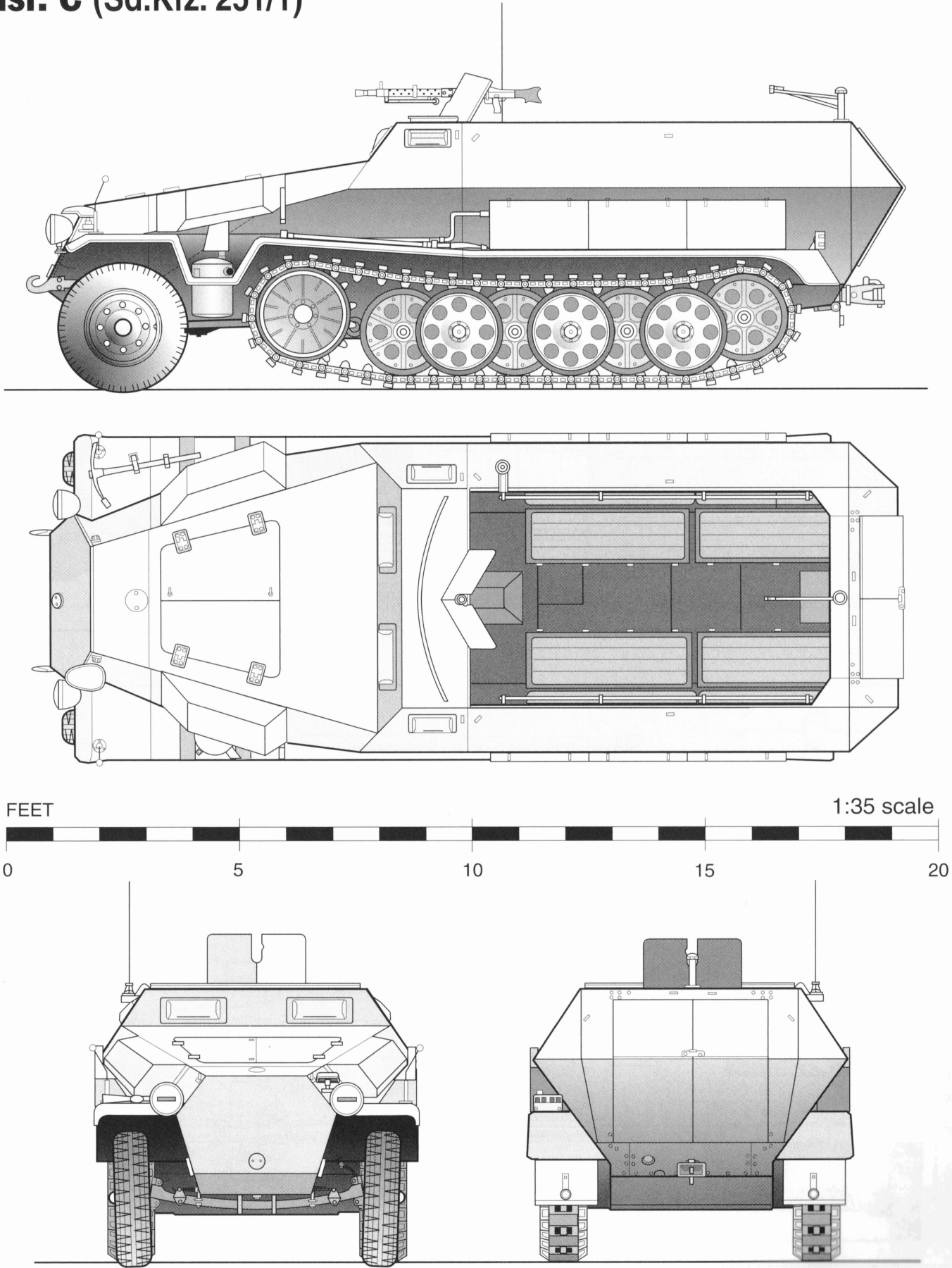
Pz.Kpfw. IV Ausf. G  
(Sd.Kfz. 161/1) early production



**15cm sFH13/1(Sf) auf  
Geschützwagen Lorraine Schlepper (f)**  
(Sd.Kfz. 135/1) with early recoil spade



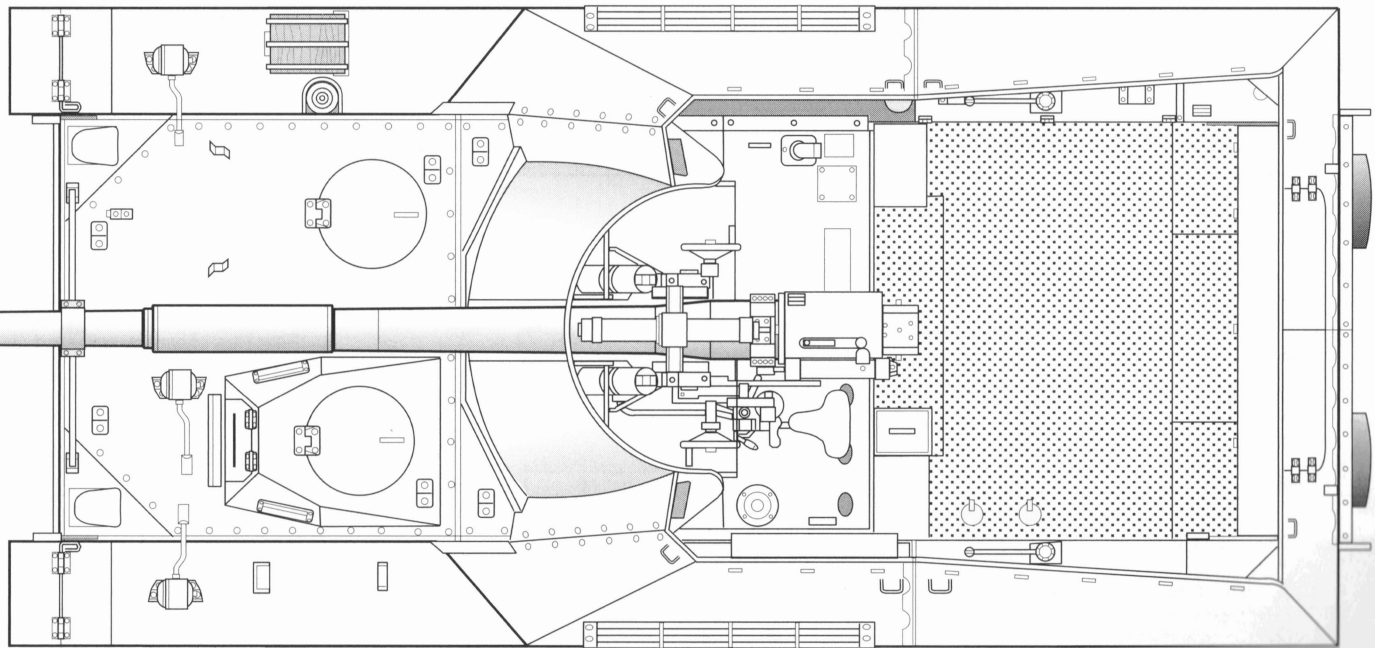
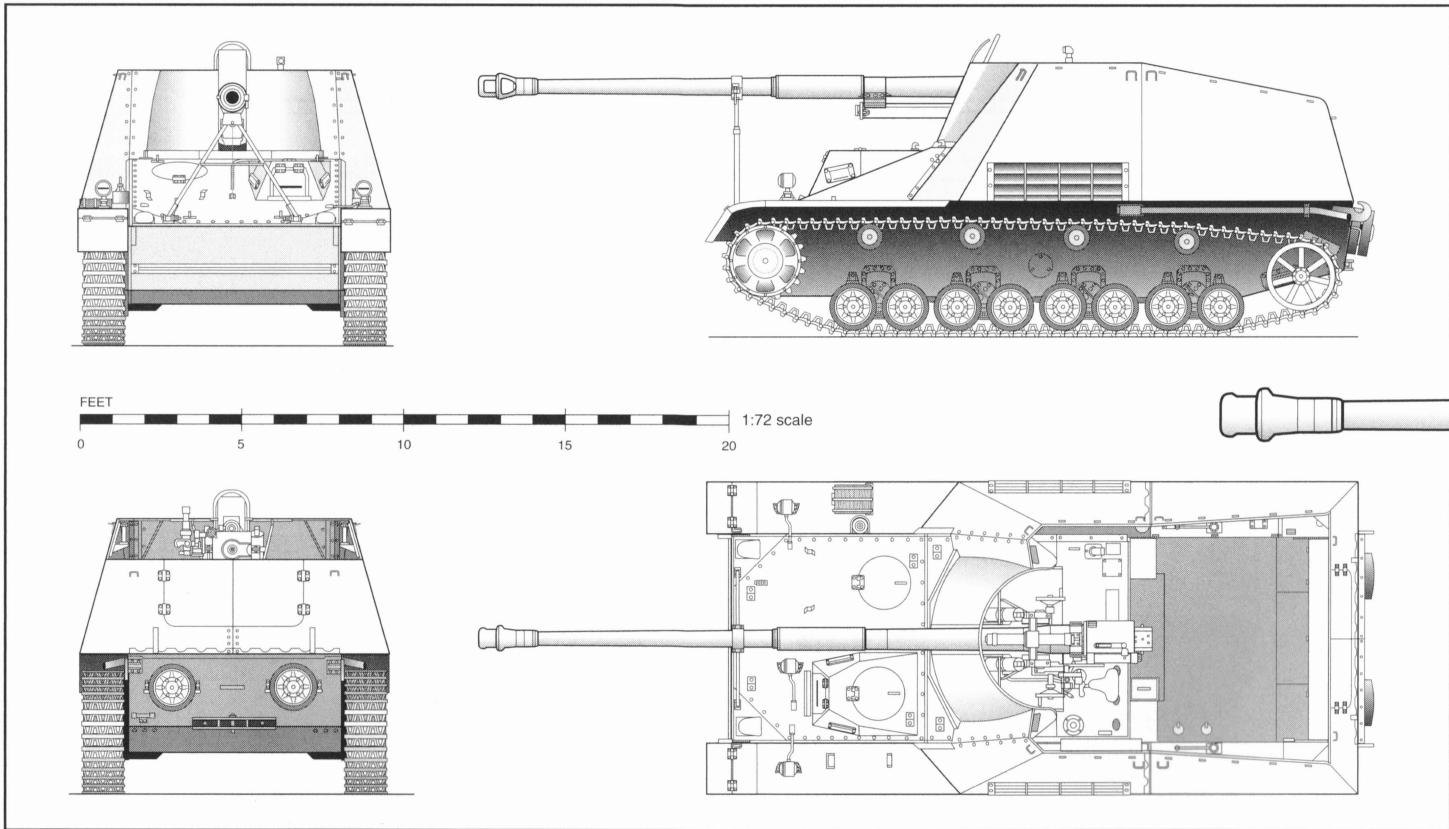
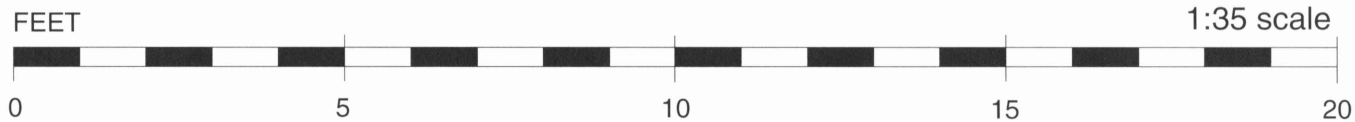
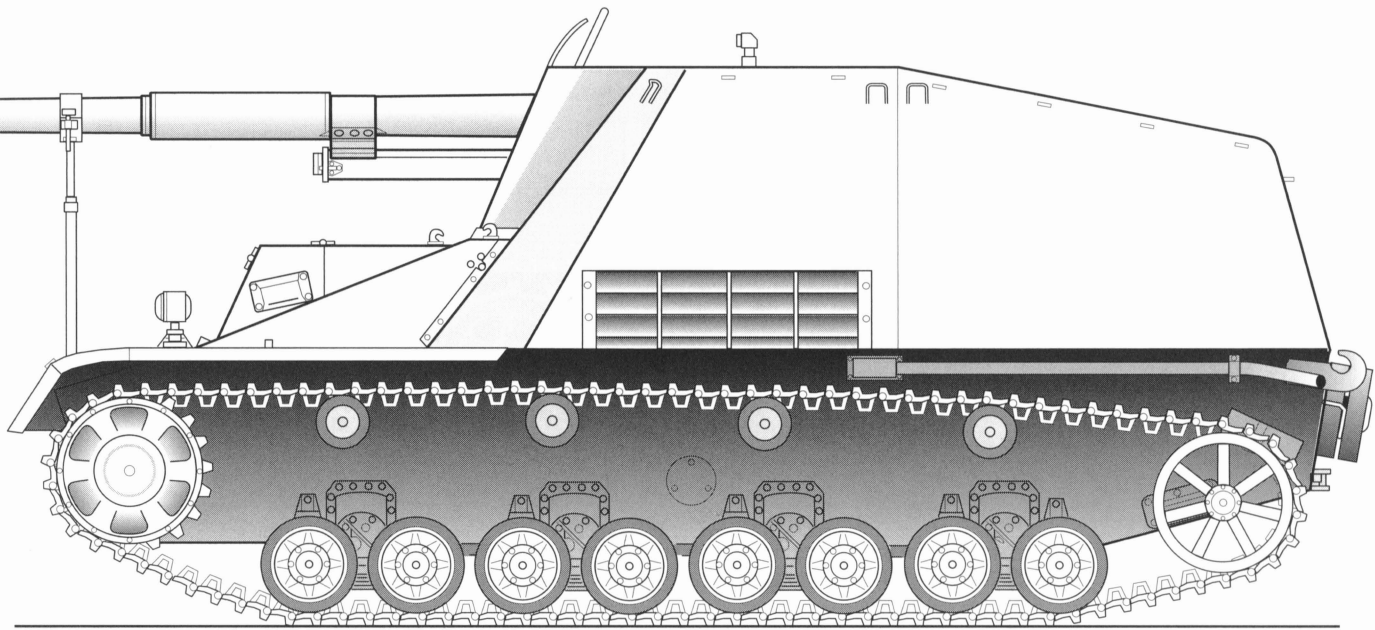
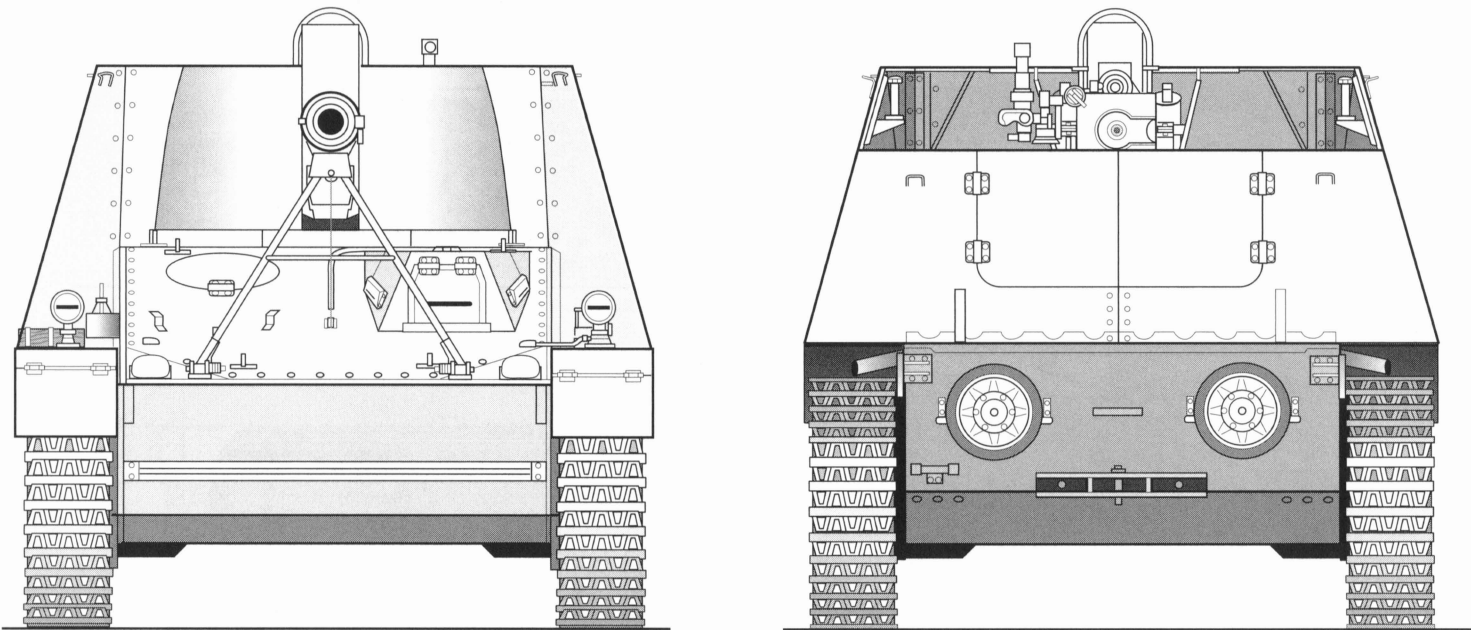
**Mittlerer Schützenpanzerwagen  
Ausf. C (Sd.Kfz. 251/1)**



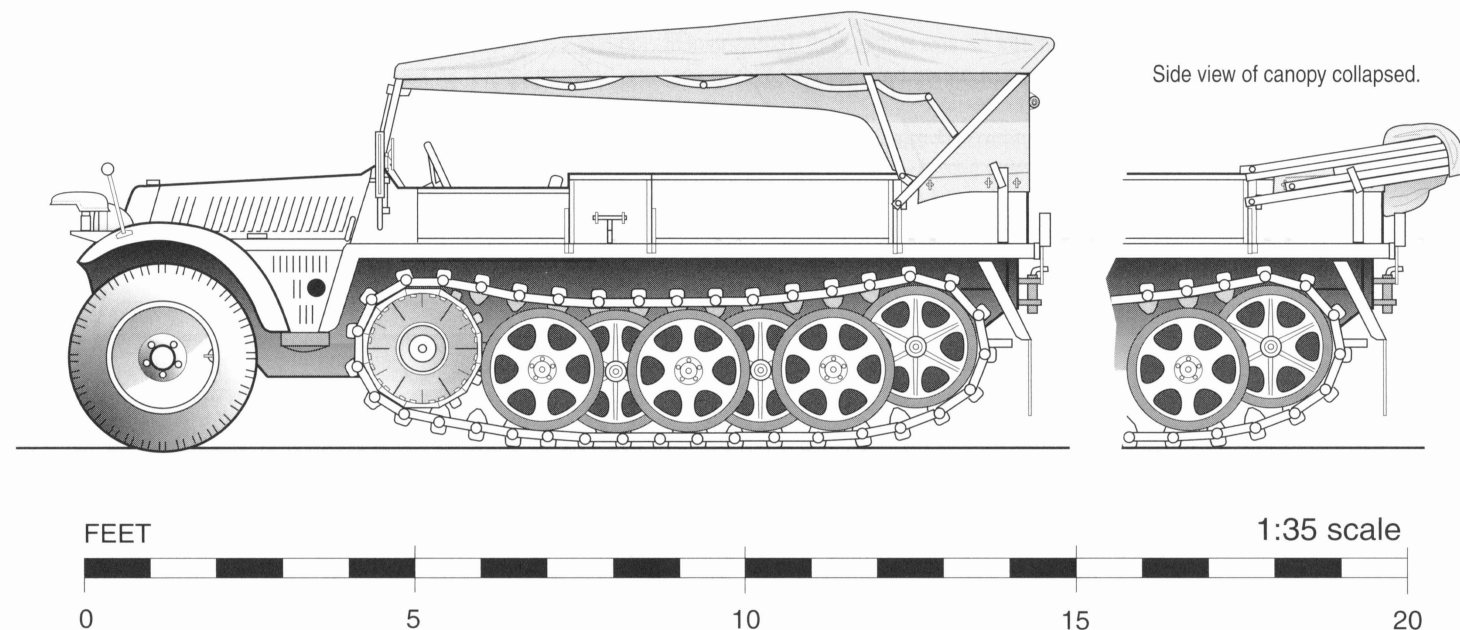


# 8.8cm PaK43/1 (L/71) auf Fahrgestell Pz.Kpfw. III/IV (Sf) Nashorn

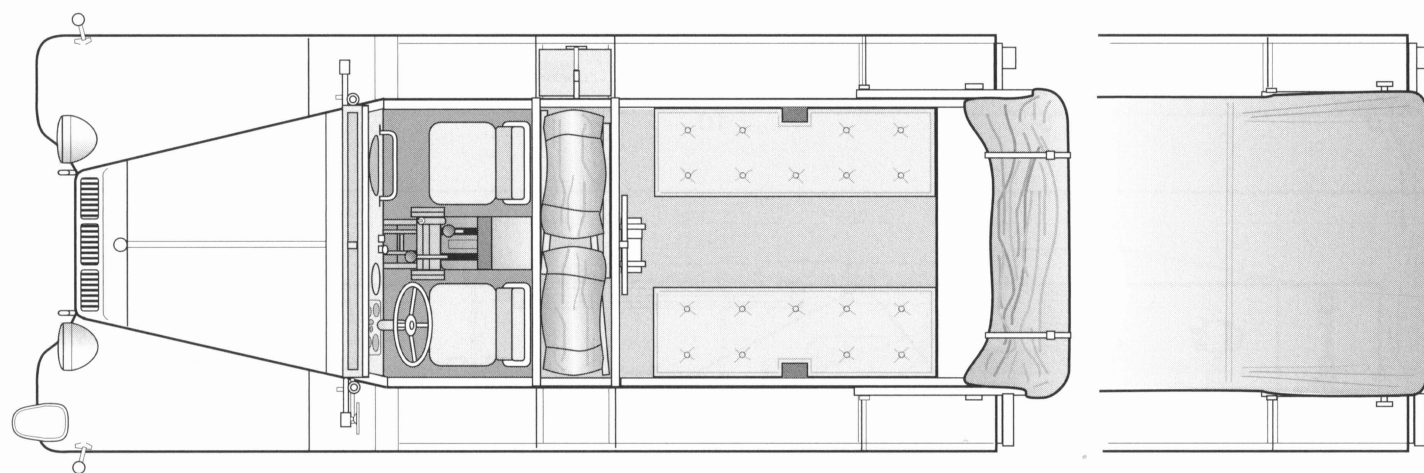
Initially known as the Hornisse (Hornet), then later as the Nashorn (Rhinceros), this vehicle was an attempt to mount the 88mm gun on a proven chassis as a self-propelled anti-tank gun. It was mounted on the same Pz.Kpfw. III/IV lengthened chassis as the Hummel used, and close to 500 of them were built. Production began in the winter of 1942/43 and continued until the end of the war. They first saw service with the 655th schwere Panzerjägerabteilung on the Eastern Front during the summer of 1943, and eventually saw action in Italy and the west as well.



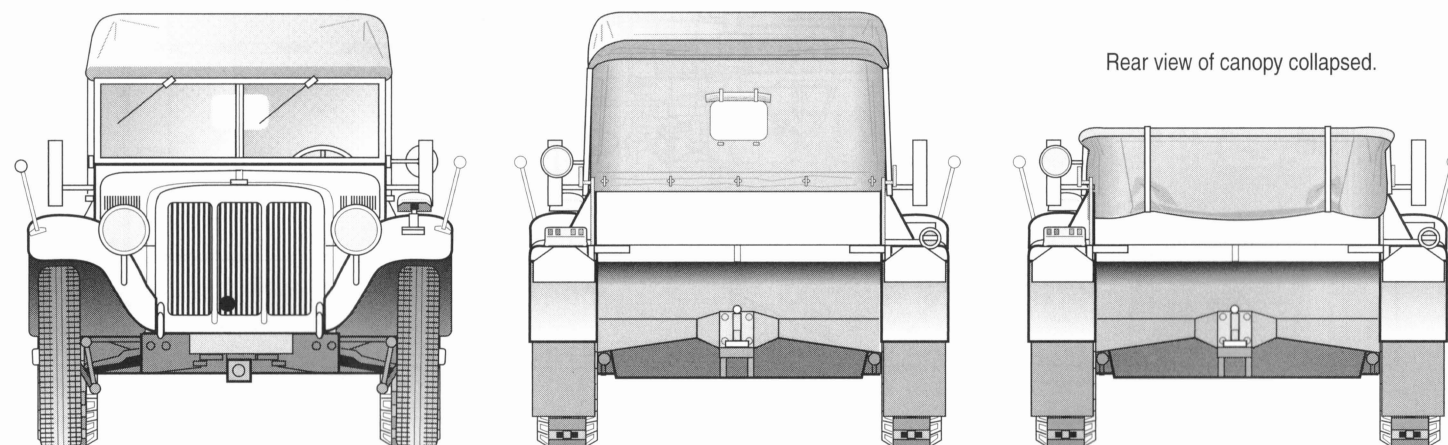
# **Leichter Zugkraftwagen 1t Demag D7** (Sd.Kfz.10)



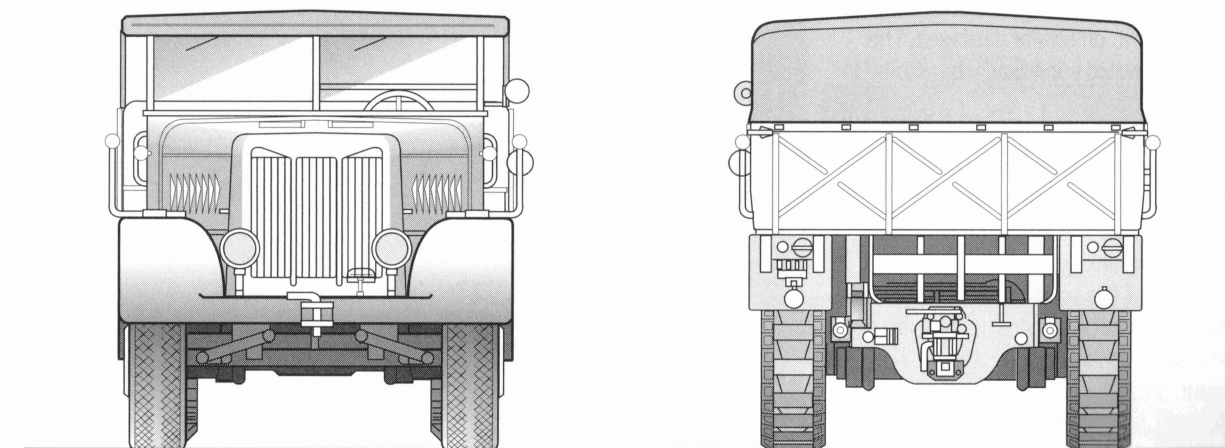
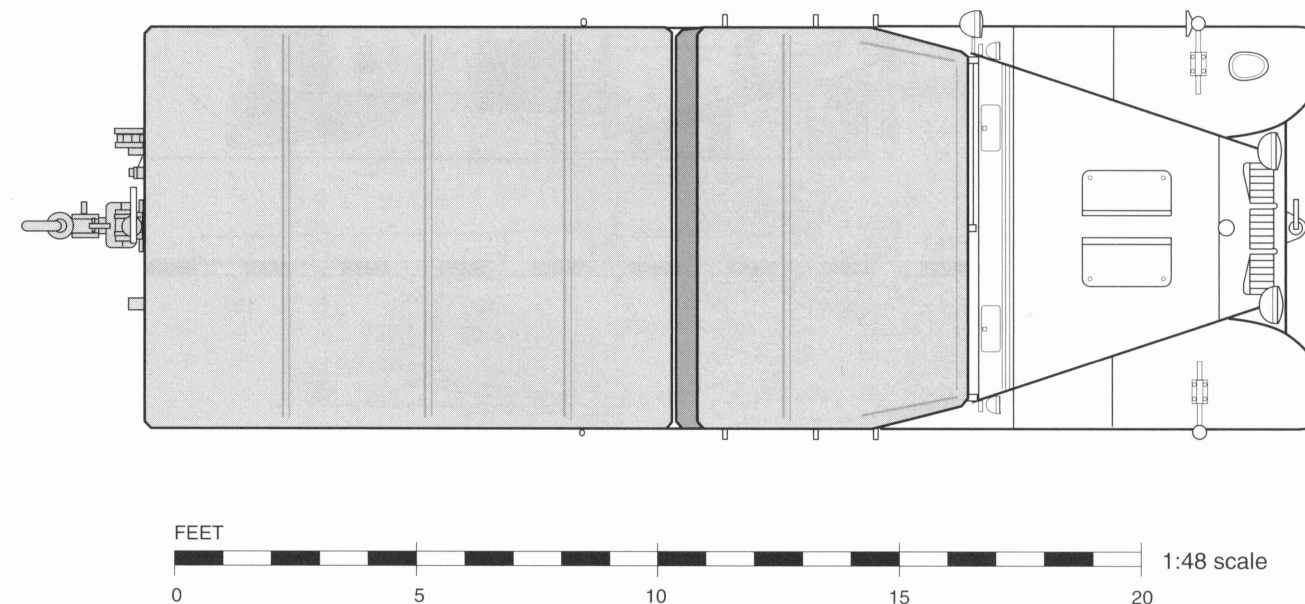
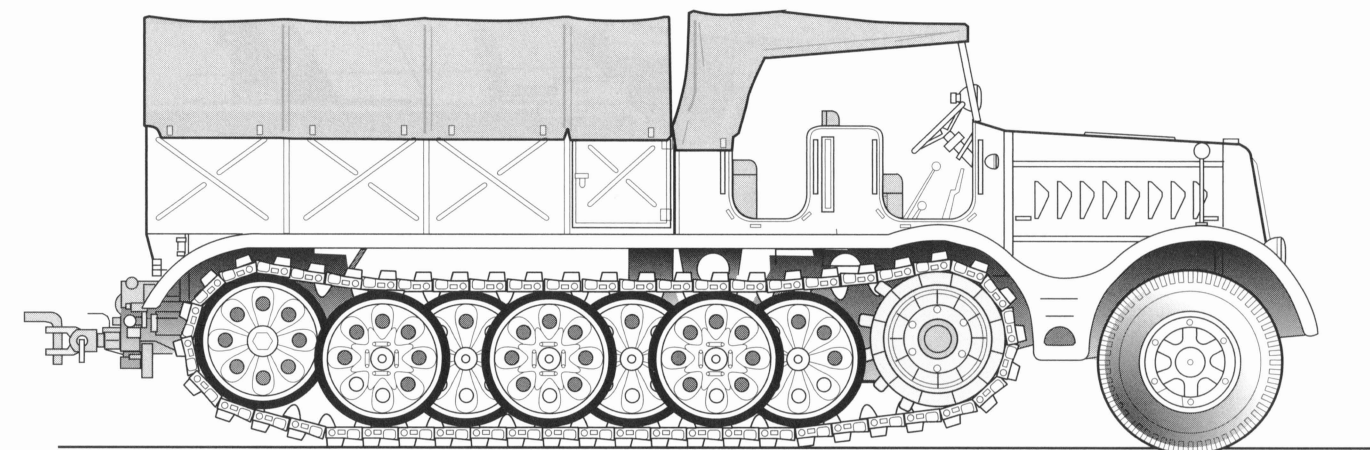
In this top view the canvas foul weather gear is shown in the collapsed mode in order to see the seating arrangement.



Rear view of canopy collapsed.



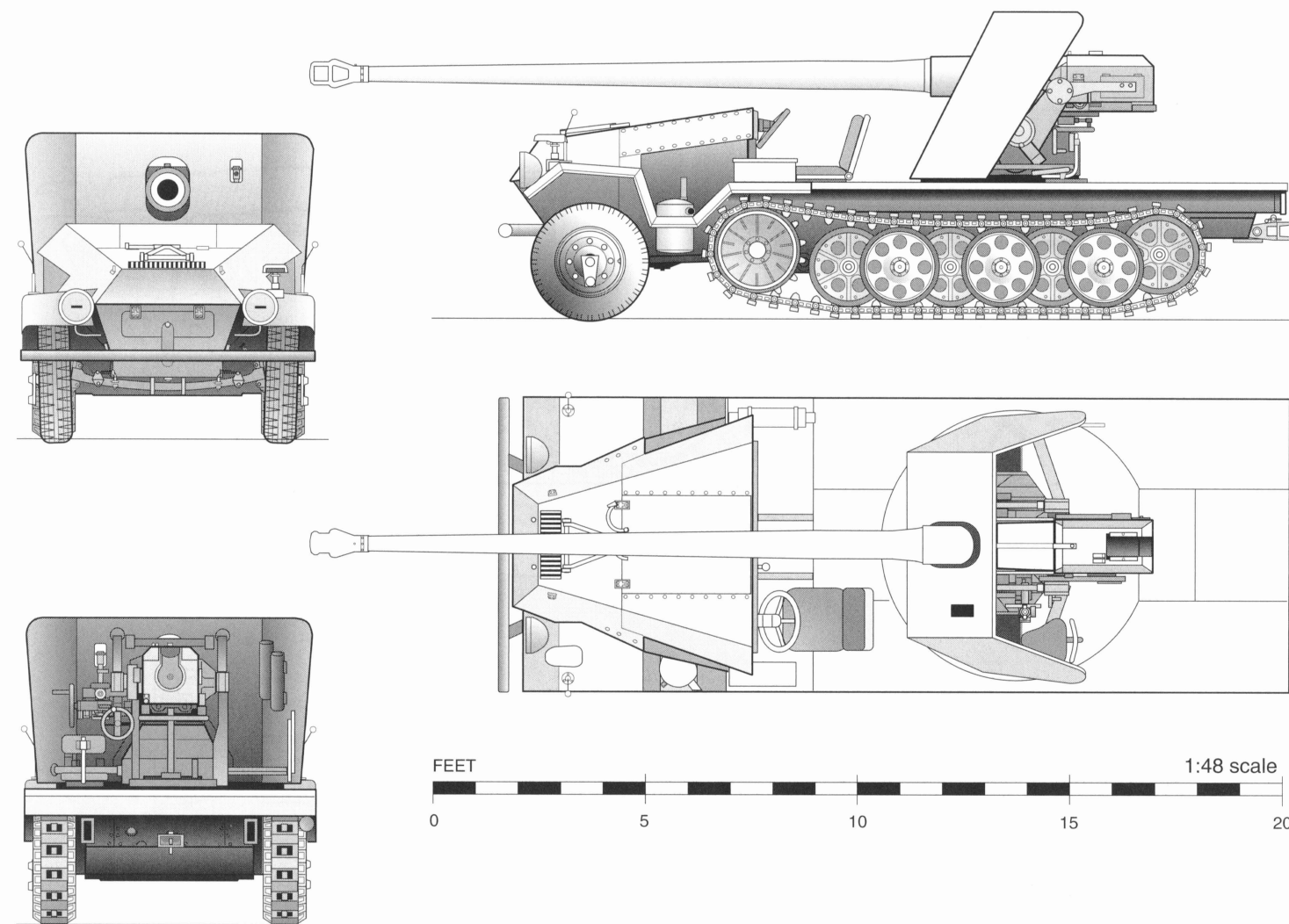
# **Schwerer Zugkraftwagen 18t** (Sd.Kfz. 9) FAMO Towing version





## Sd.Kfz. 251 für 8.8cm KwK 43 L/71

(Experimental prototype)



On January 28, 1944 Hitler, Guderian and other important officials came to view some of the new weapons proposals meant to halt the armor onslaught of the Soviets on the eastern front. As well as this 8.8cm KwK 43 both the 7.5cm PaK 43 and 43/41 were shown on similar carriages. The ammunition supply would supposedly be carried in a towed trailer.

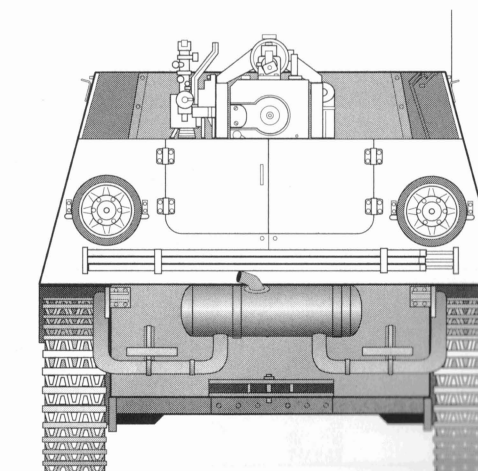
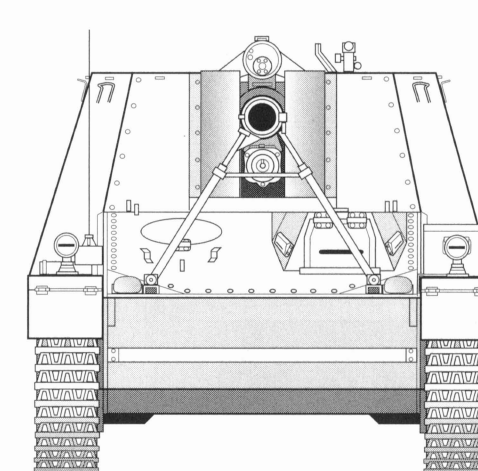
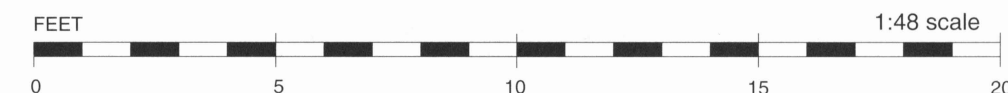
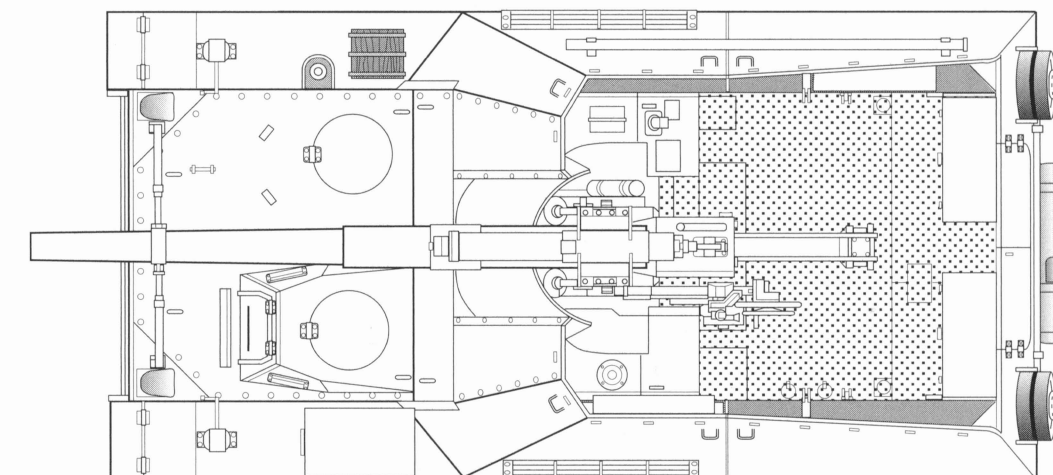
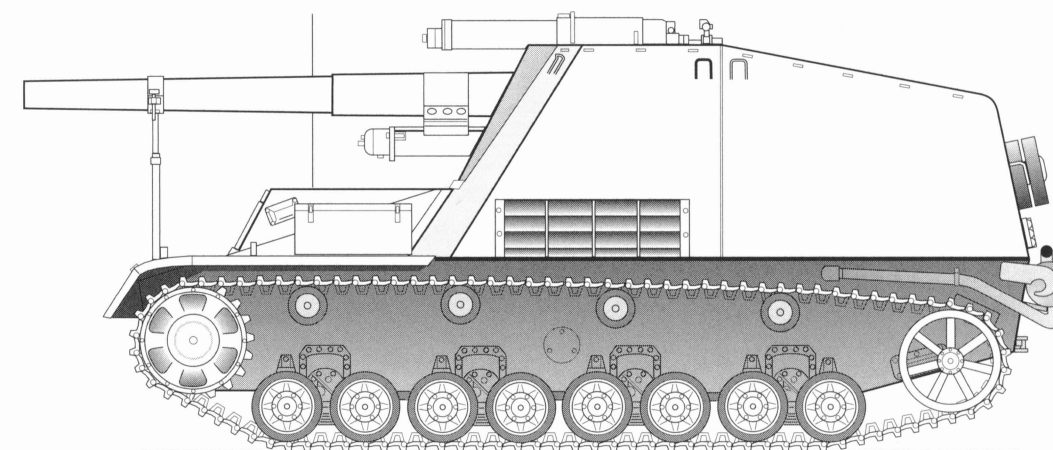
This weapon mounted on a modified Ausf. A-B chassis was the same as the monoblock 88 fitted to the Tiger II, and was obviously pushing the carriage to the extreme. The main intention was to mate a powerful anti-tank gun with a readily available chassis, but it is hard to believe that this carriage could withstand any extreme traverse of such a huge weapon on uneven terrain.

In any event, it does not appear that it ever went into serious production, and merely remains as a makeshift but interesting, low silhouette, self-propelled gun platform.

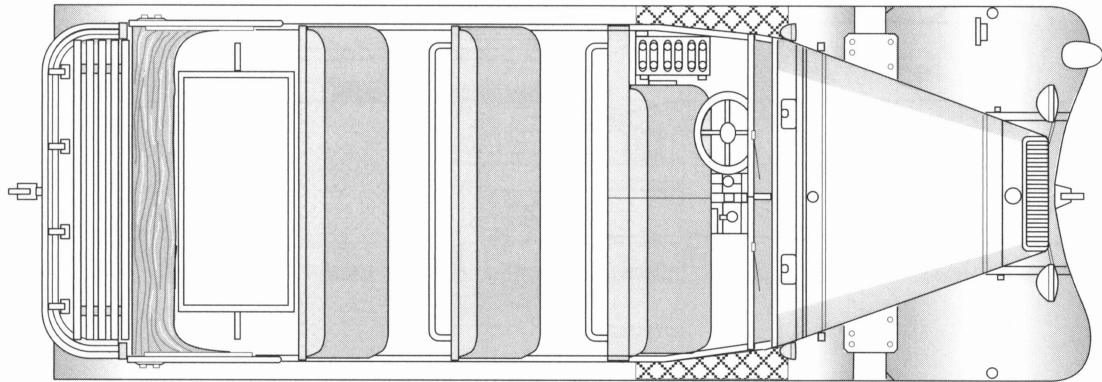
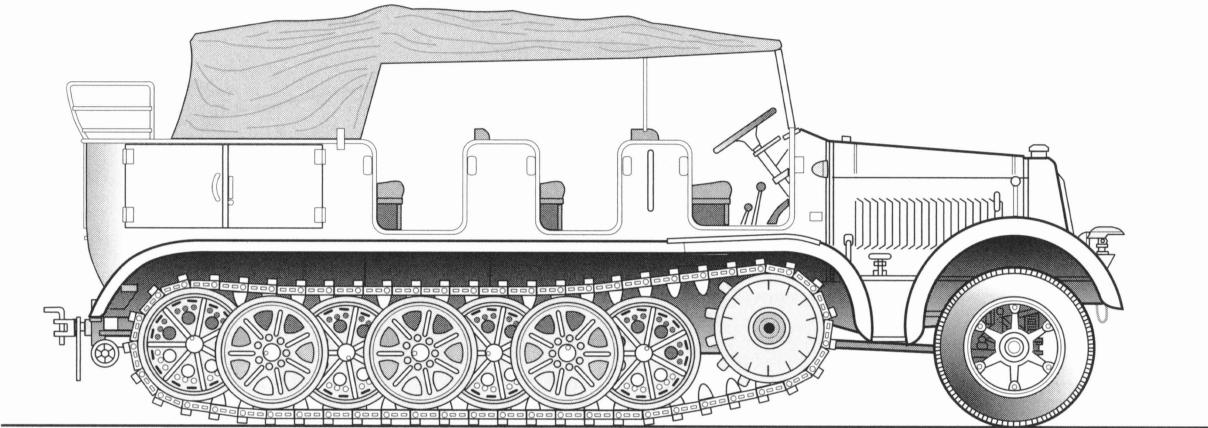


## 15cm Schwere Panzerhaubitze auf Fahrgestell Pz.Kpfw. III/IV

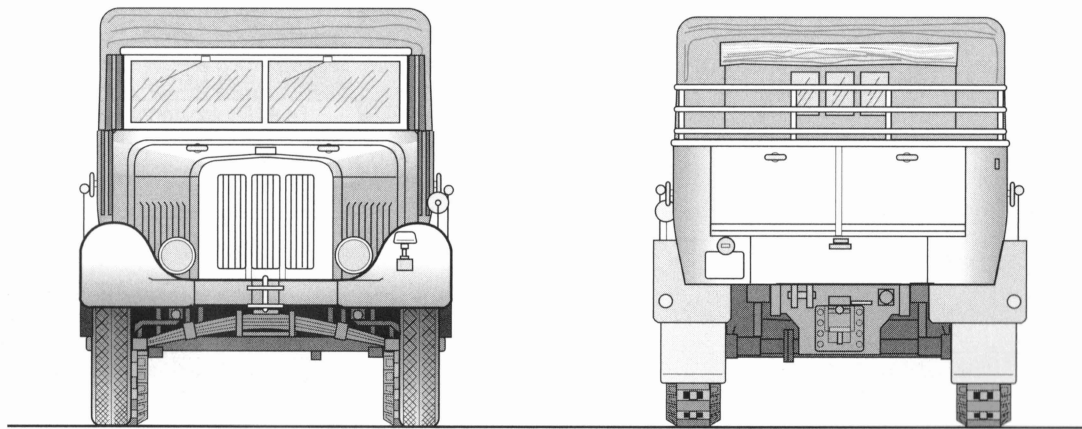
(Sf) (Sd.Kfz. 165) Hummel (early production)



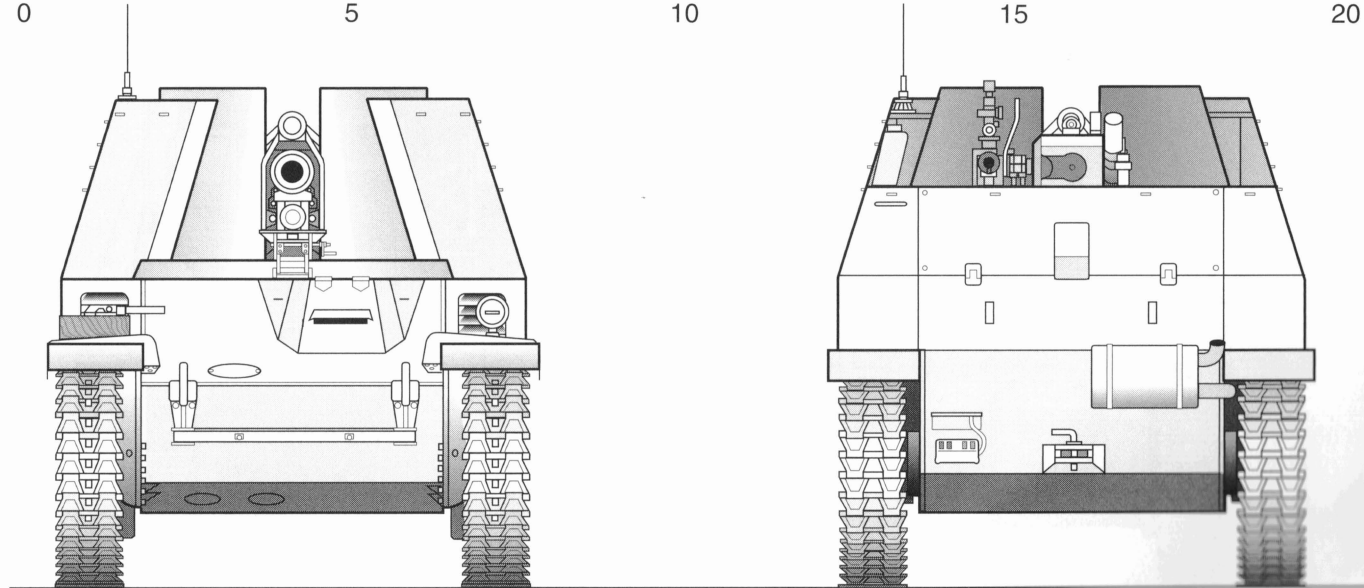
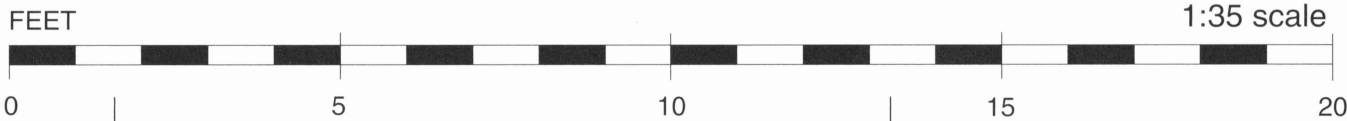
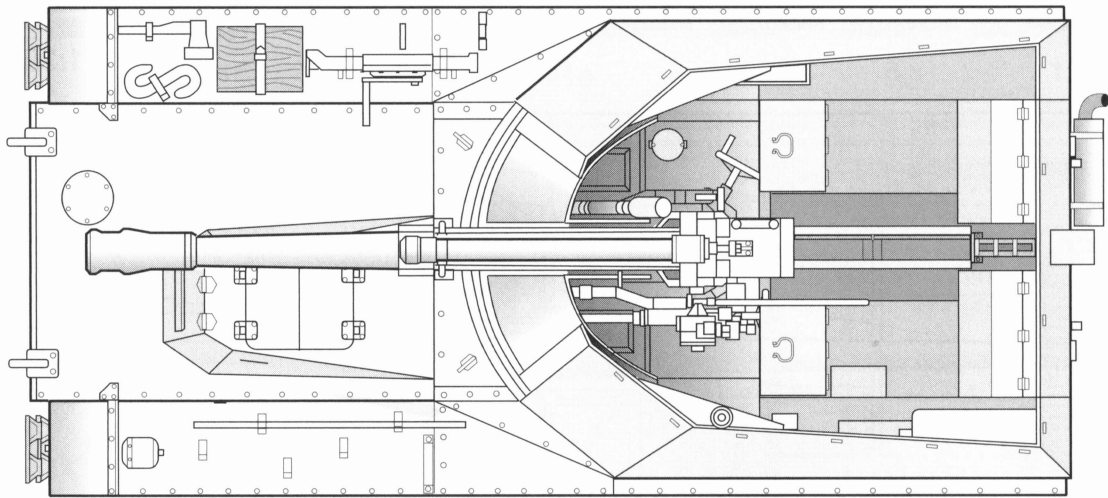
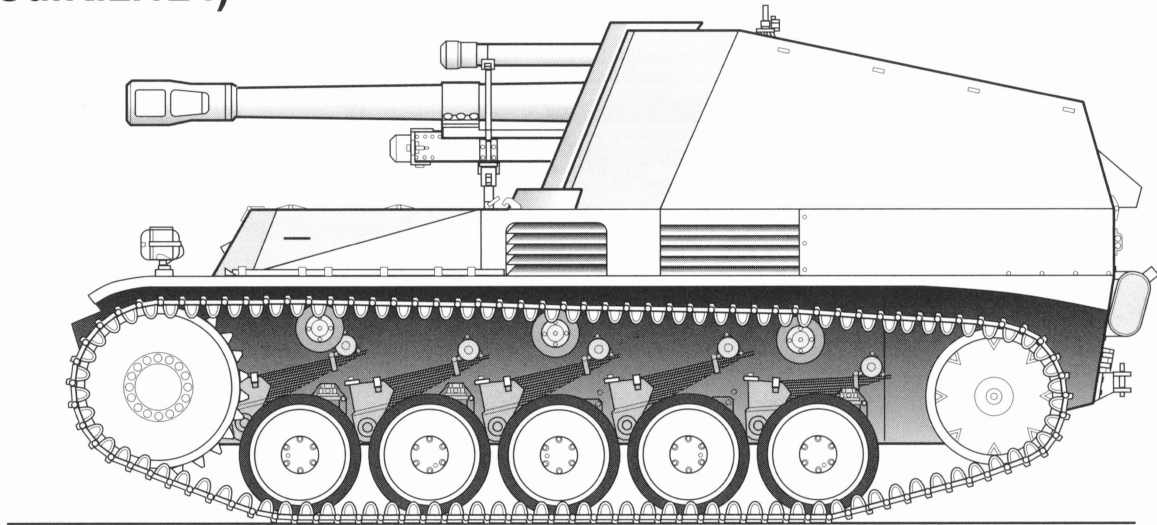
**Zugkraftwagen 8t, (Sd.Kfz. 7)**  
Type KM m11



Top view shown with canvas top in the retracted position.

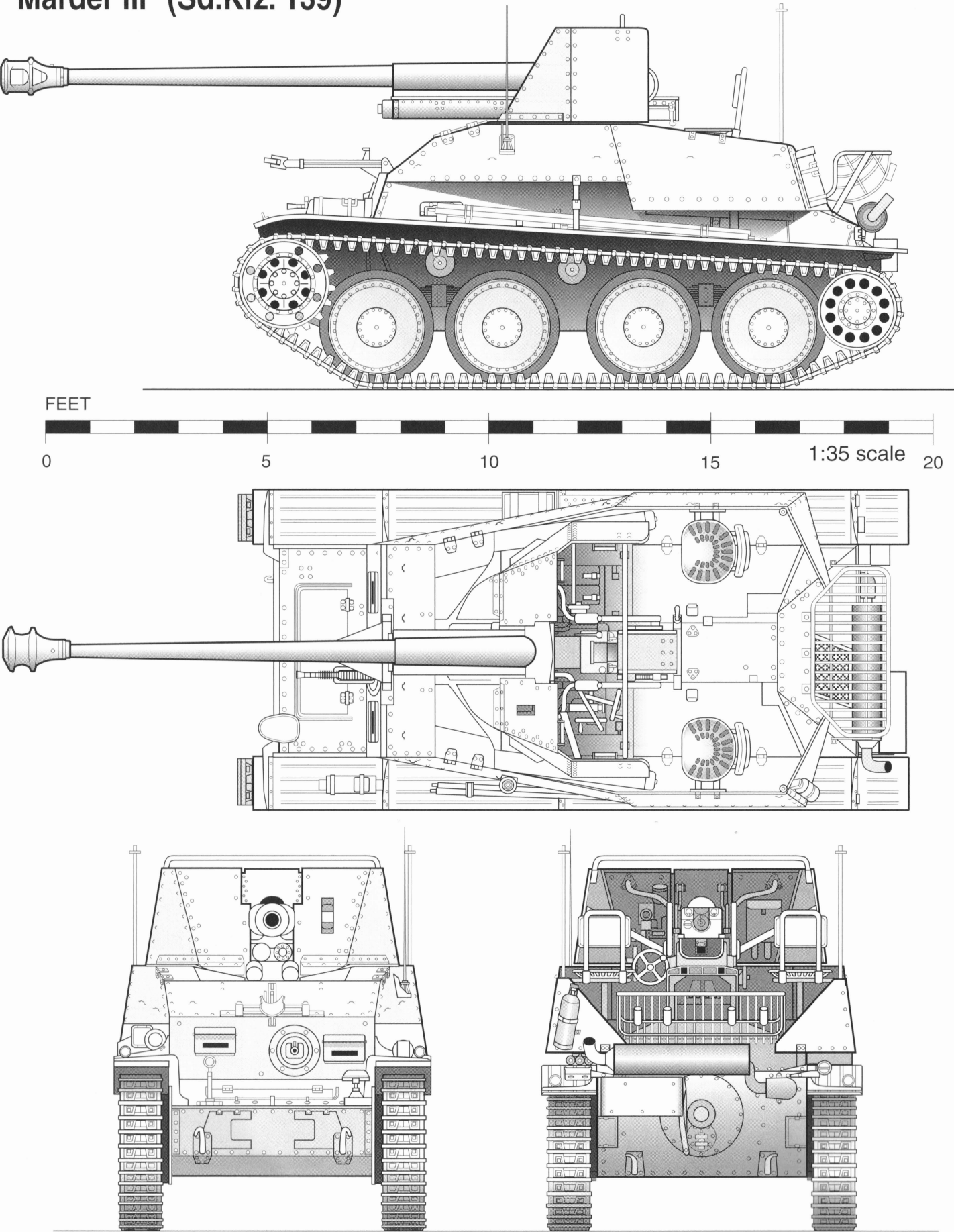


**Wespe I.FH 18/2 auf Pz.Kpfw.II**  
(Sf) (Sd.Kfz.124)

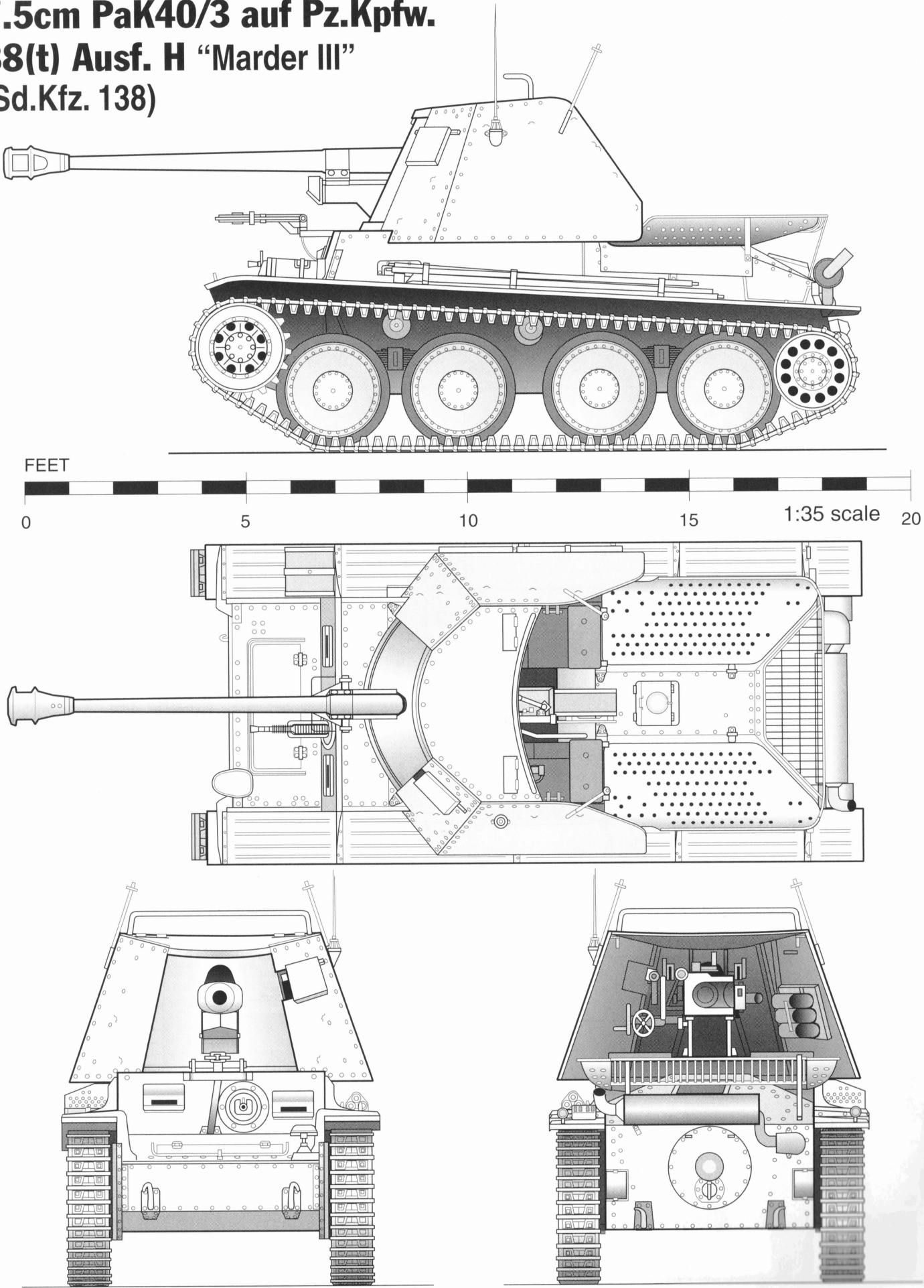




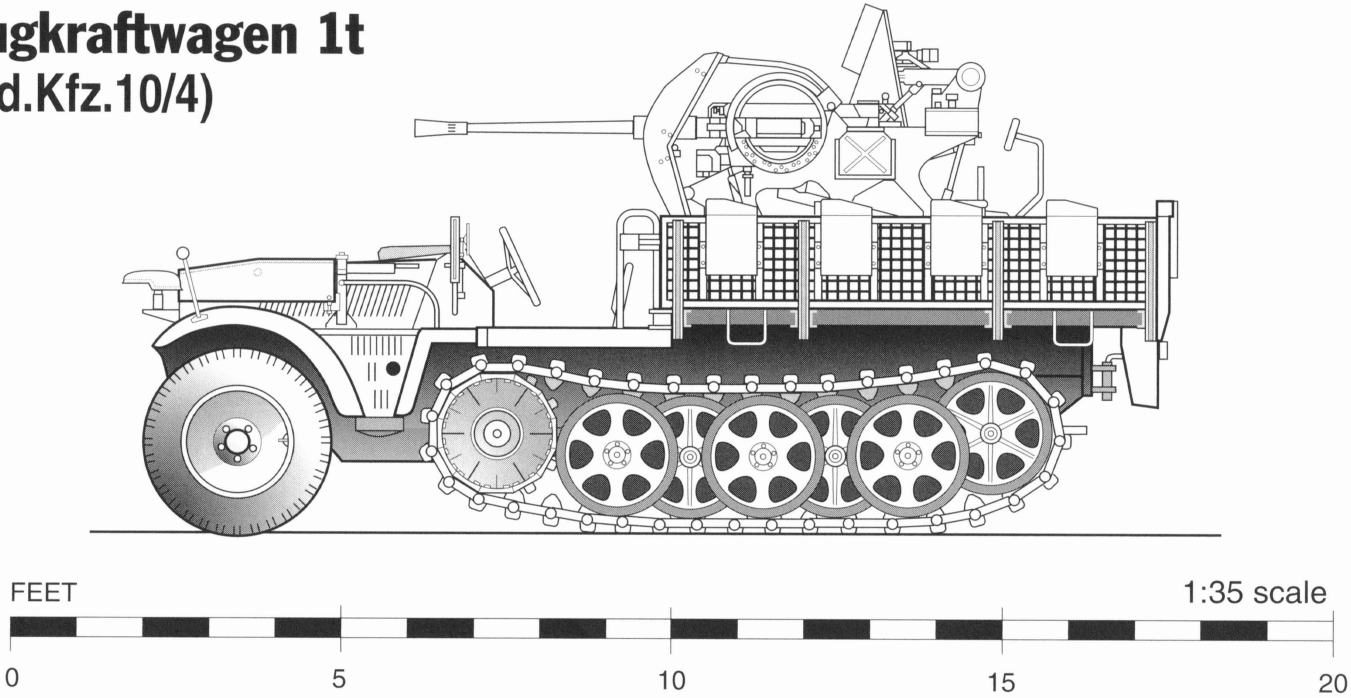
**Panzerjäger 38(t) für 7.62cm PaK36(r)**  
“Marder III” (Sd.Kfz. 139)



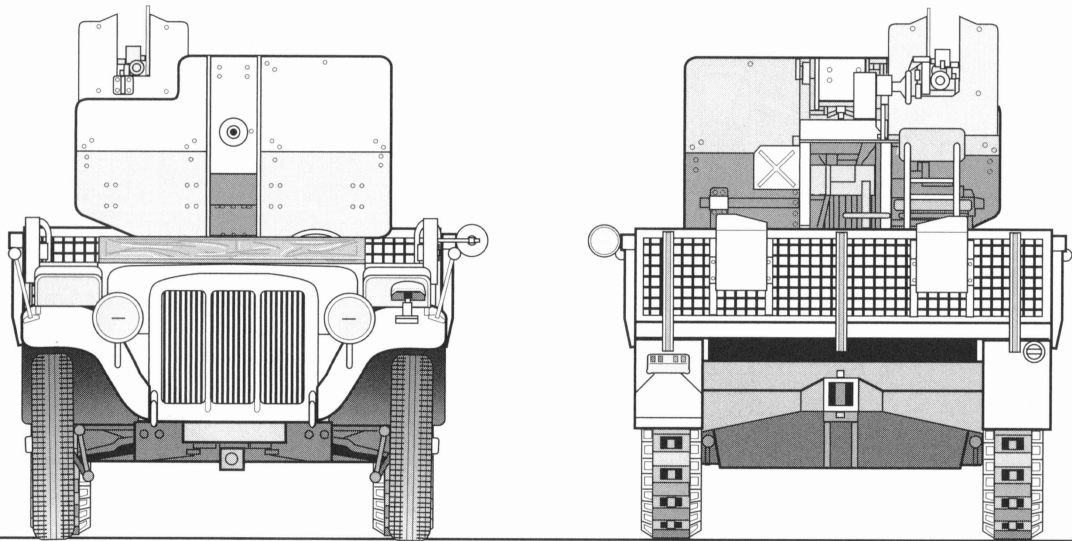
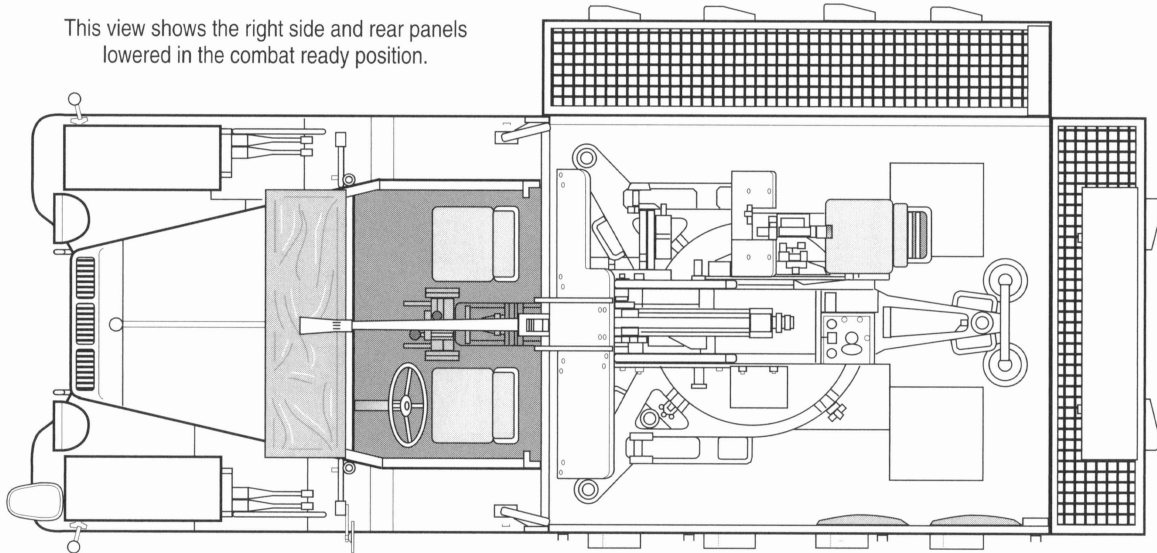
**7.5cm PaK40/3 auf Pz.Kpfw. 38(t) Ausf. H “Marder III”**  
(Sd.Kfz. 138)



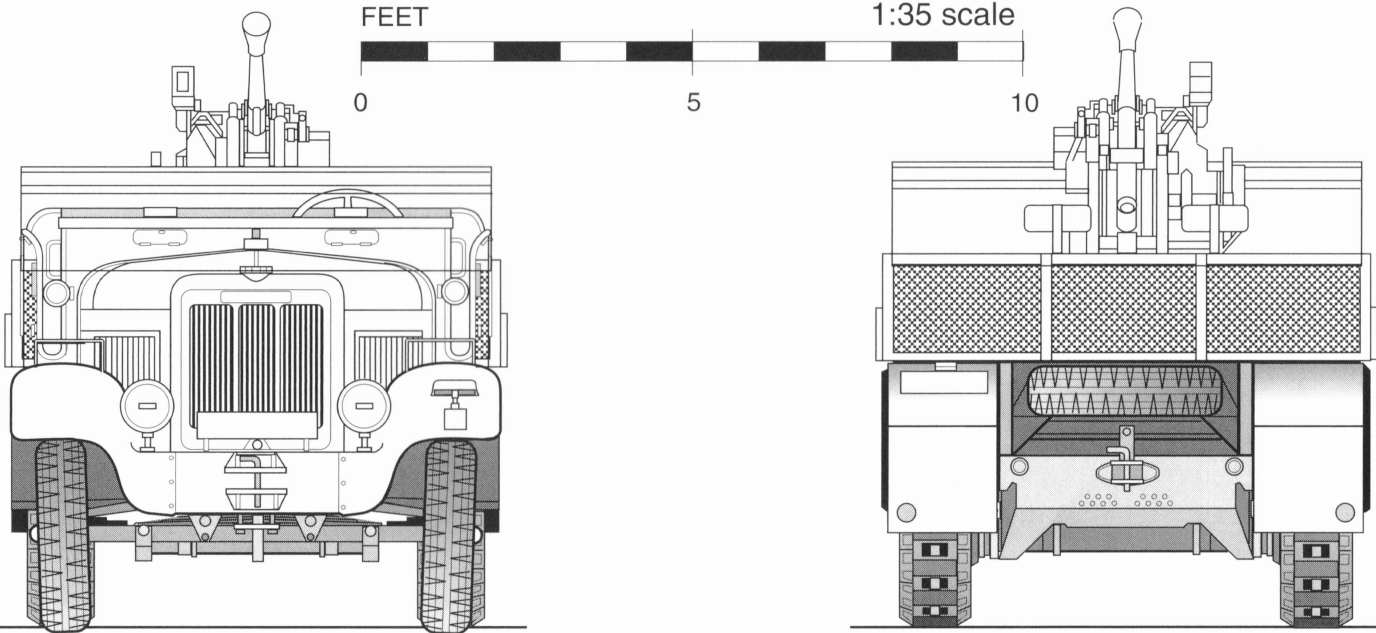
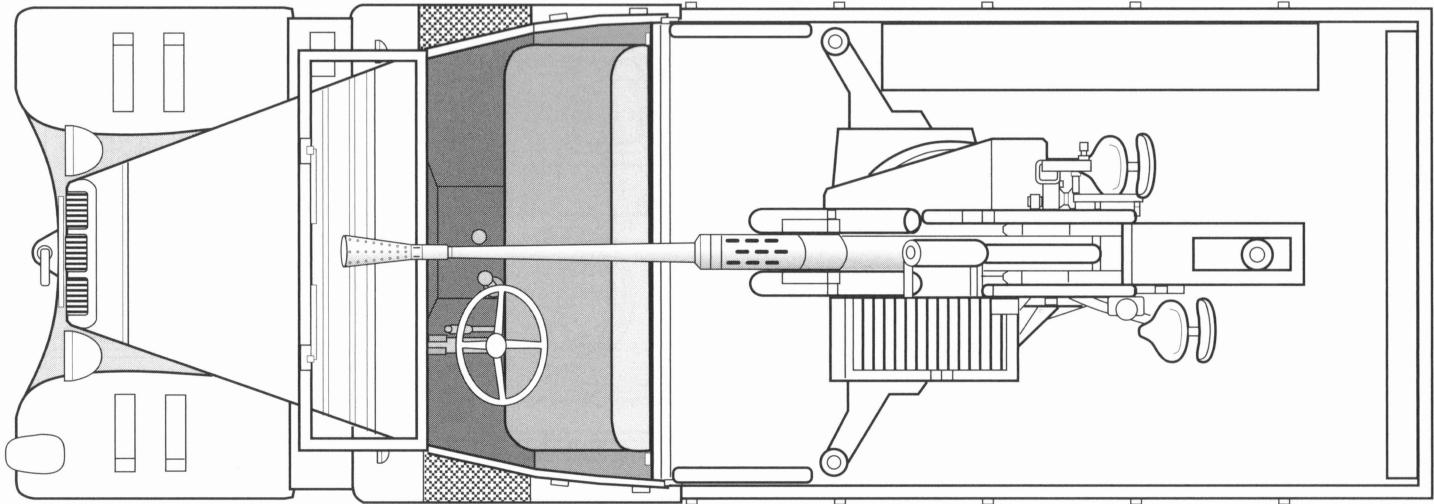
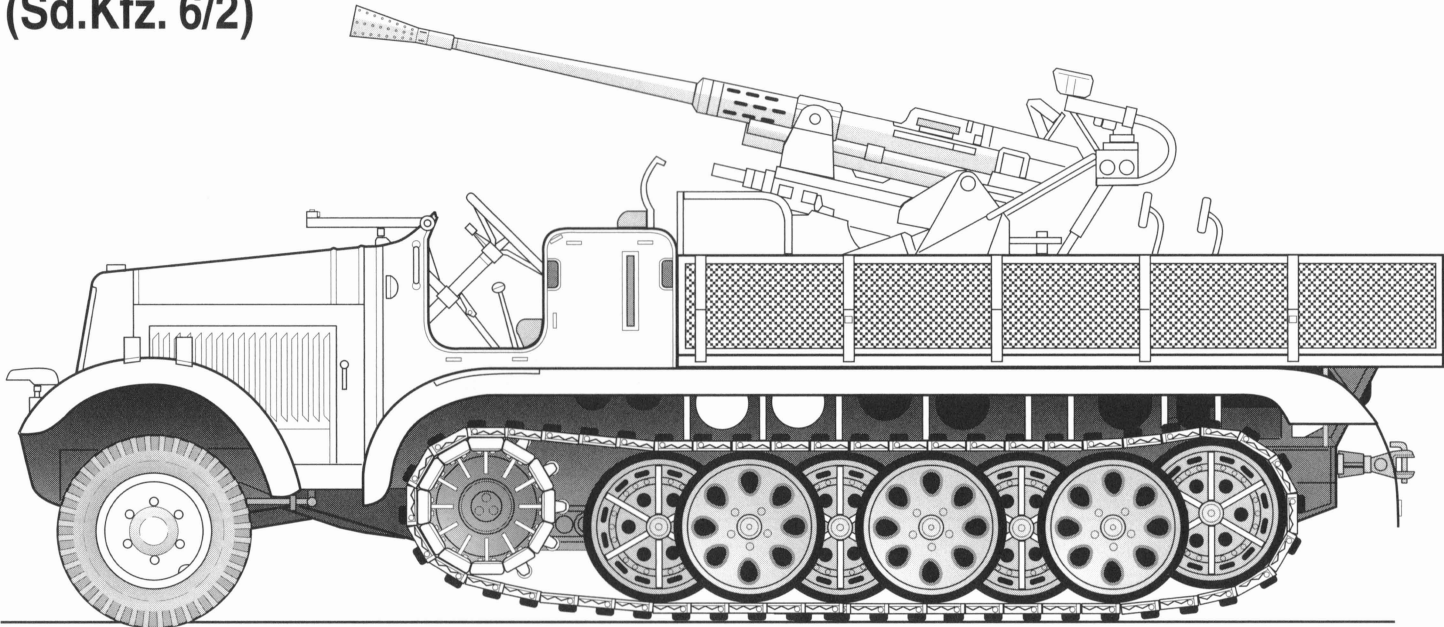
**2cm FlaK38 auf Fahrgestell  
Zugkraftwagen 1t  
(Sd.Kfz.10/4)**



This view shows the right side and rear panels lowered in the combat ready position.

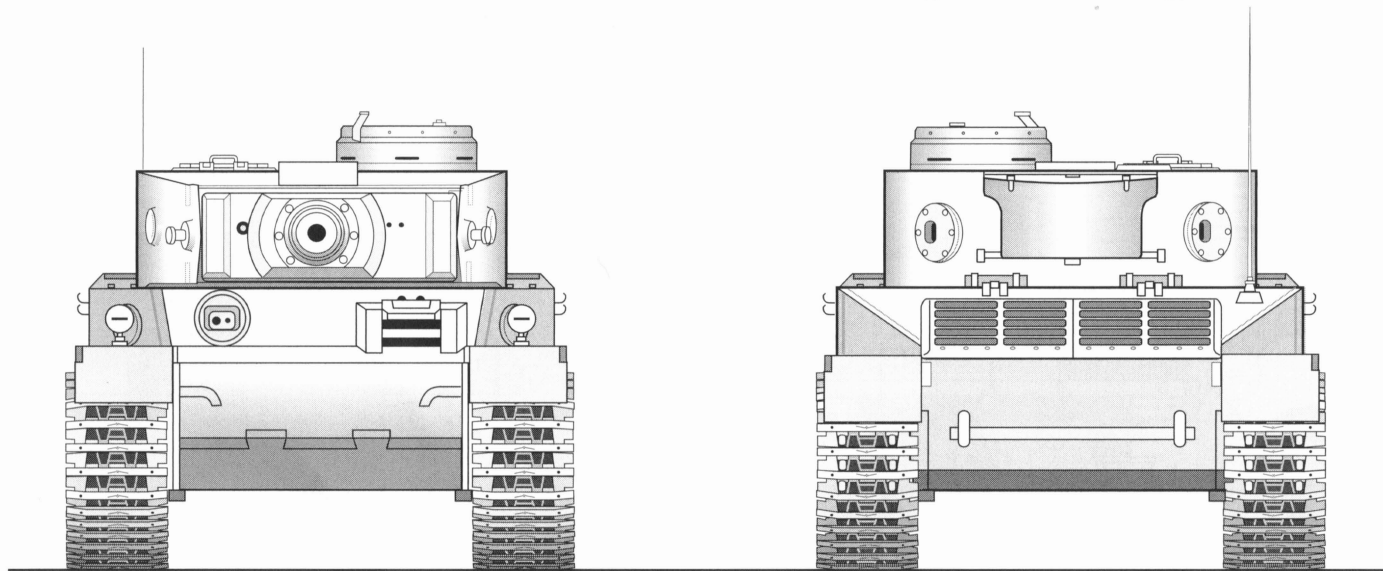
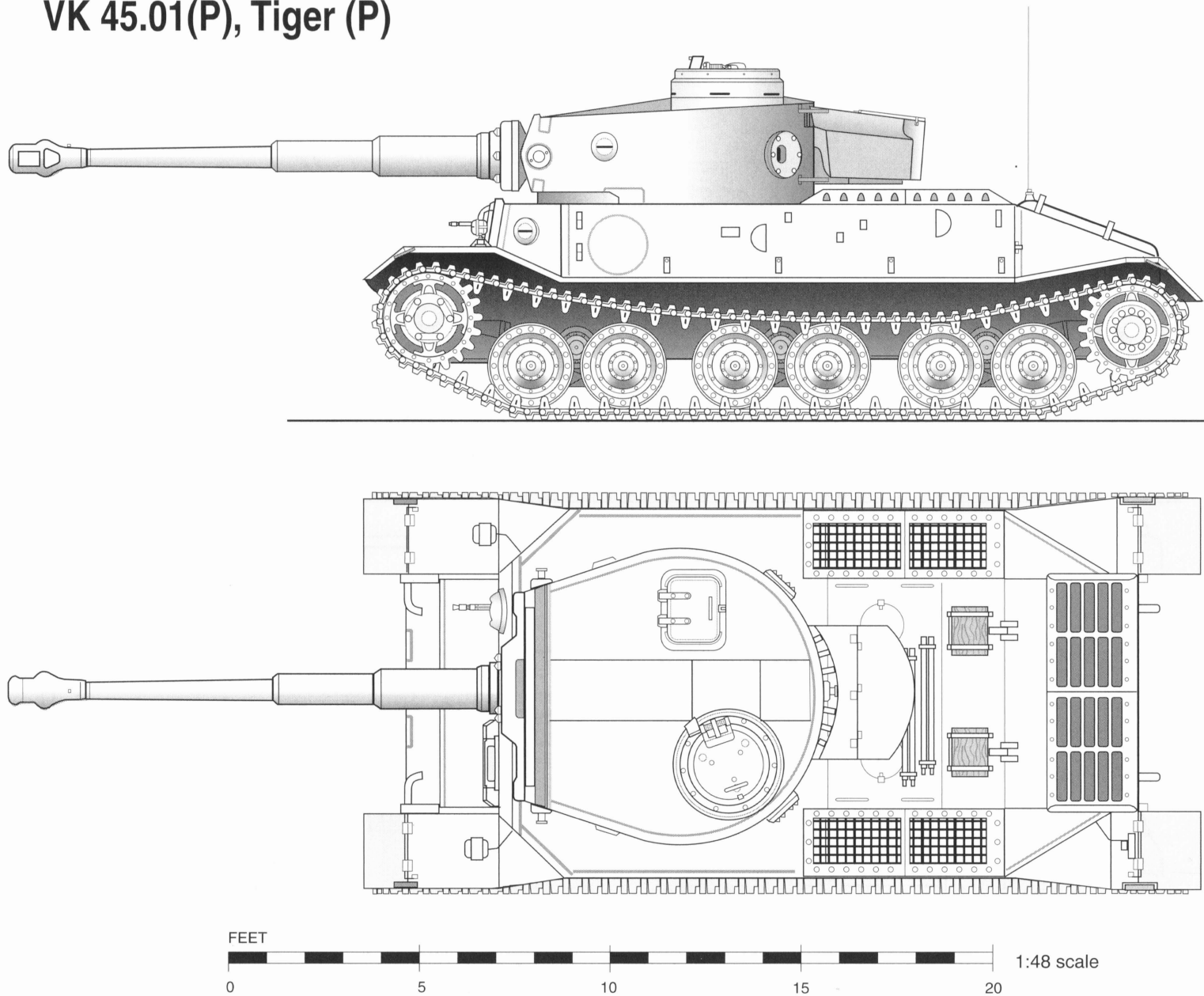


**3.7cm FlaK36 auf Fgst Zgkw 5t  
(Sd.Kfz. 6/2)**

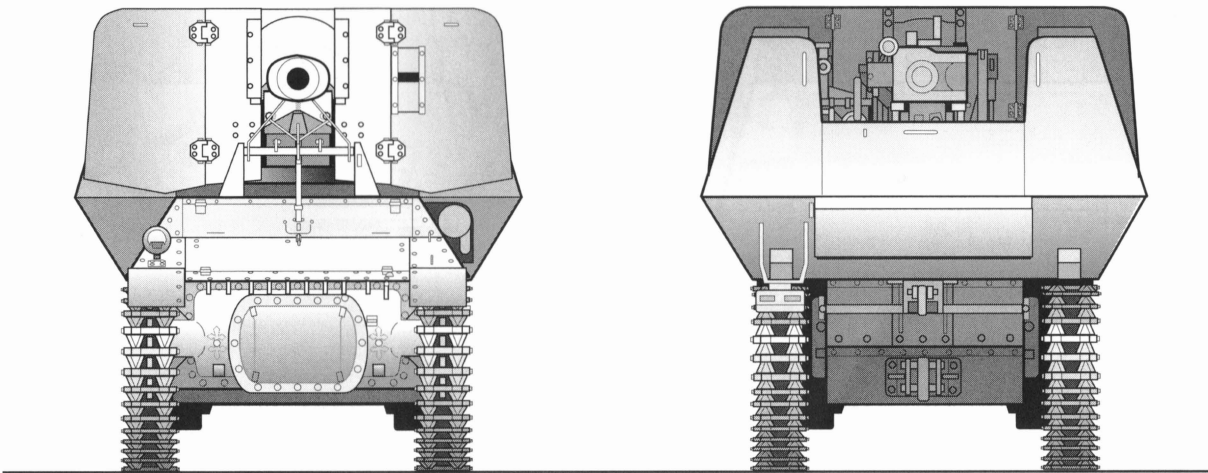
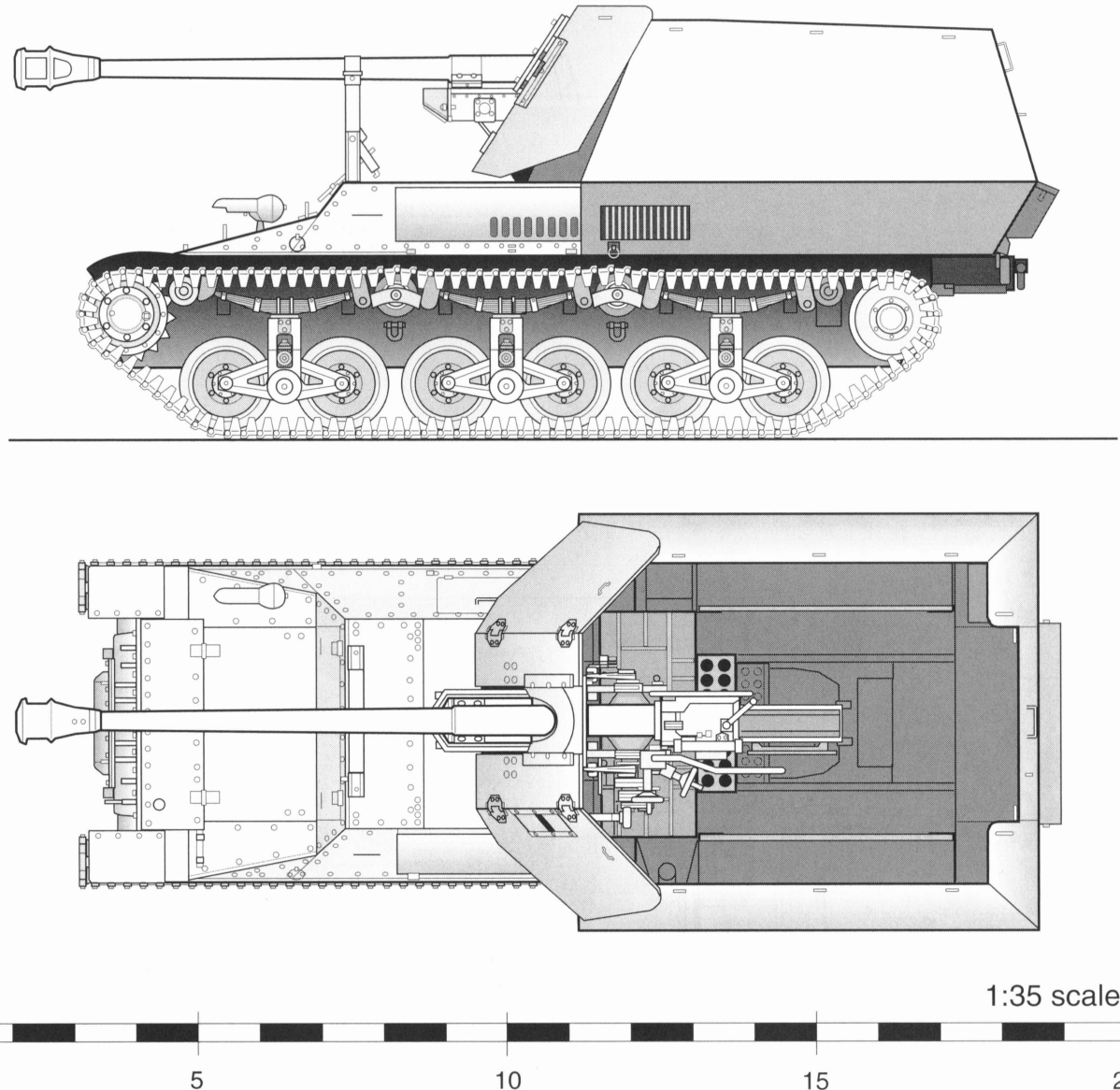




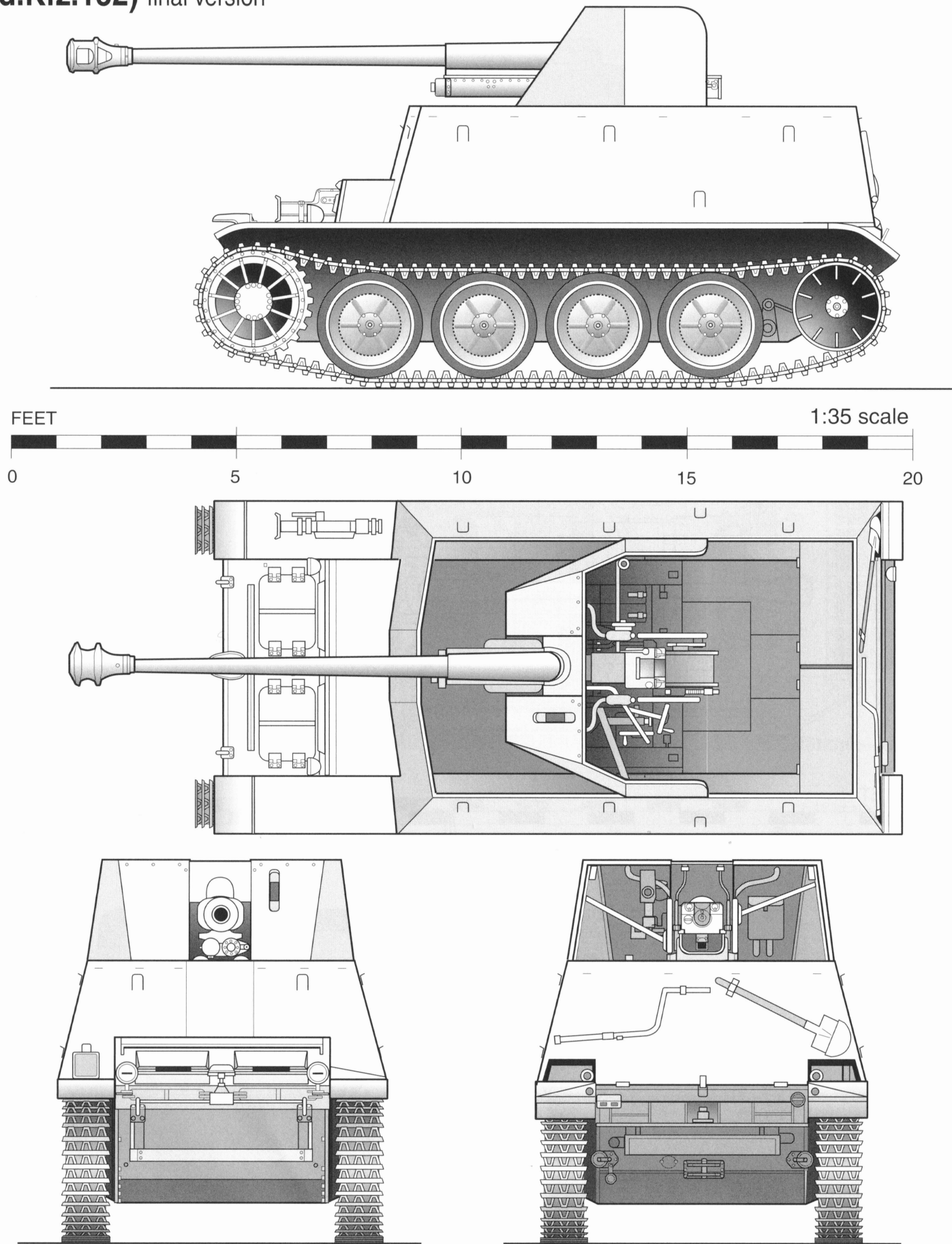
**Pz.Kpfw. VI P, (Sd.Kfz.181),Type 101,  
VK 45.01(P), Tiger (P)**



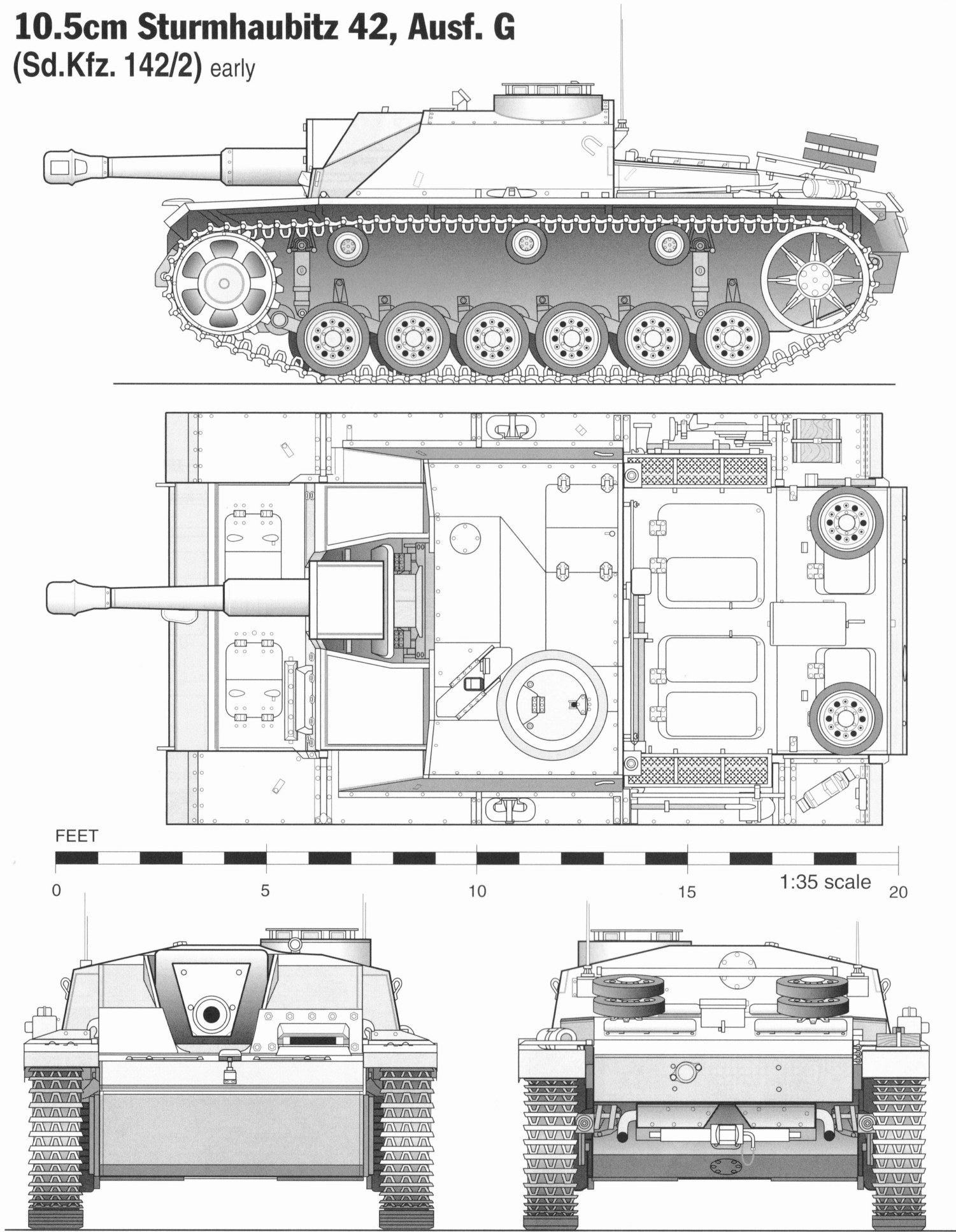
**7.5cm PaK40/1 auf  
Geschützenwagen Lorraine Schlepper (f) (Sd.Kfz. 135)**



7.62cm PaK36(r) auf Fgst Pz.Kpfw. II Ausf. D  
(Sd.Kfz.132) final version



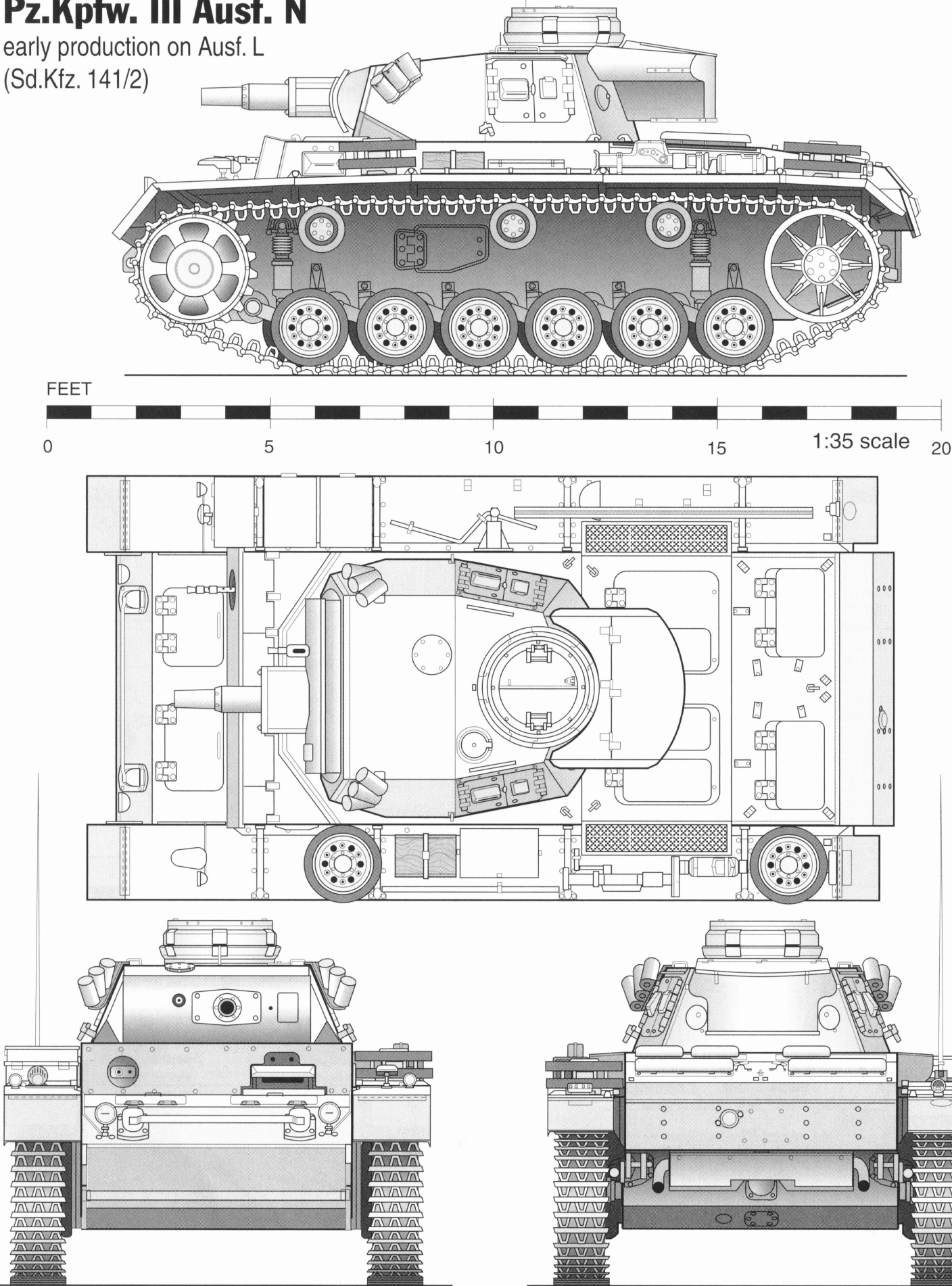
10.5cm Sturmhaubitze 42, Ausf. G  
(Sd.Kfz. 142/2) early



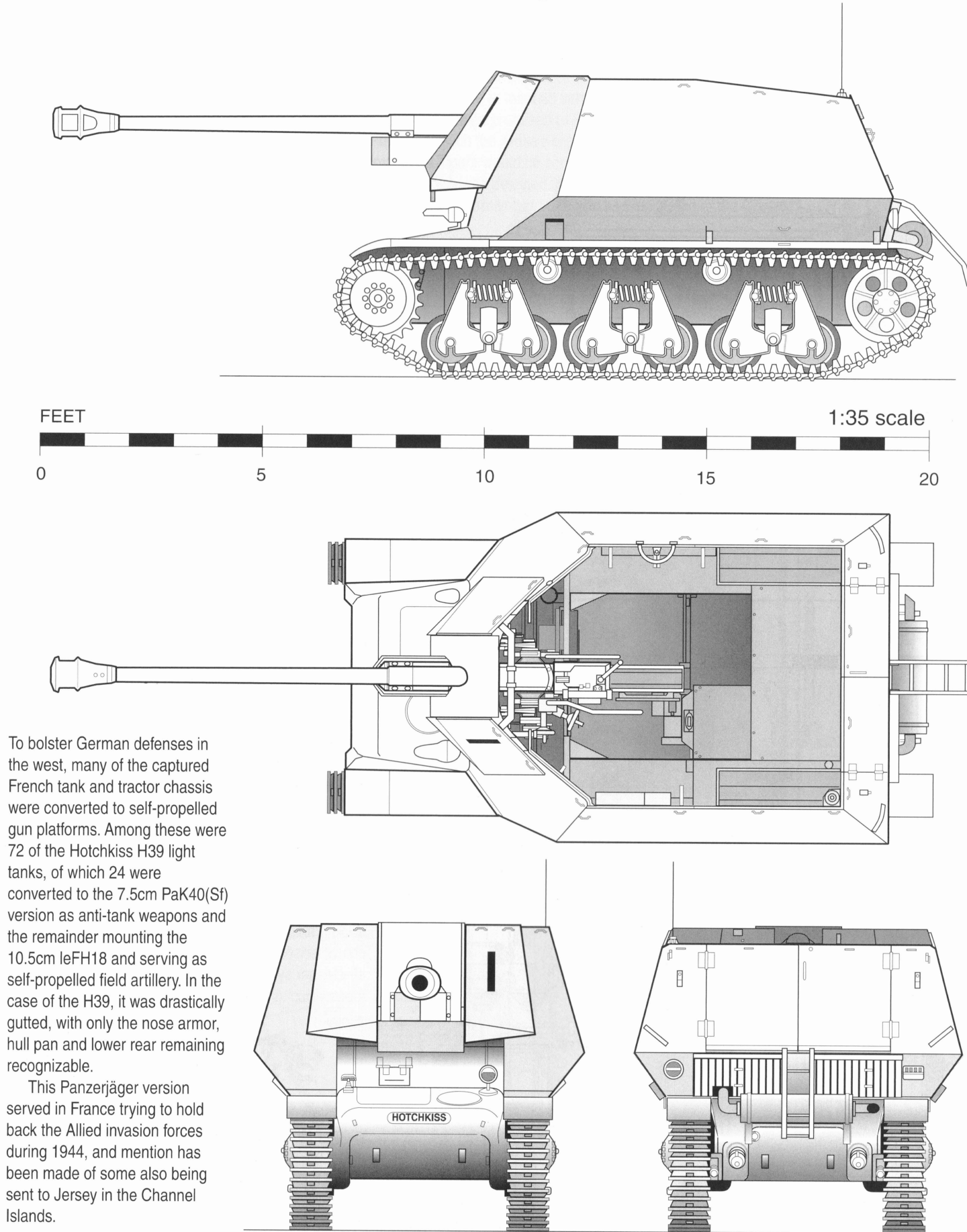


Pz.Kpfw. III Ausf. N

early production on Ausf. L  
(Sd.Kfz. 141/2)



7.5cm PaK40(Sf) auf Geschützwagen 39H(f)



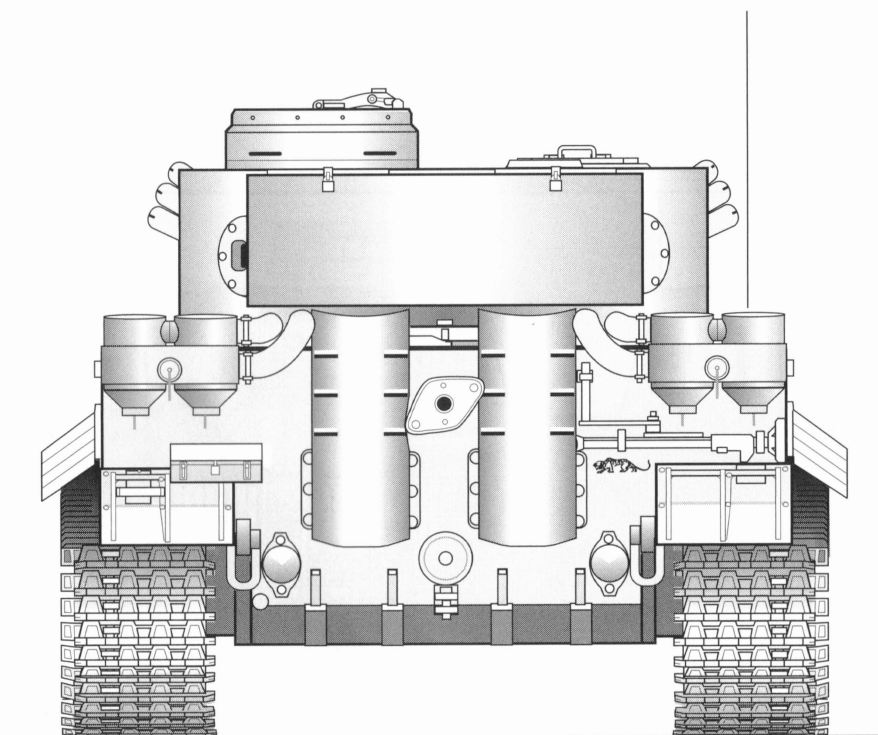
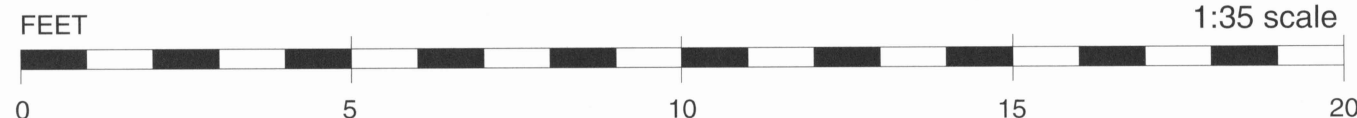
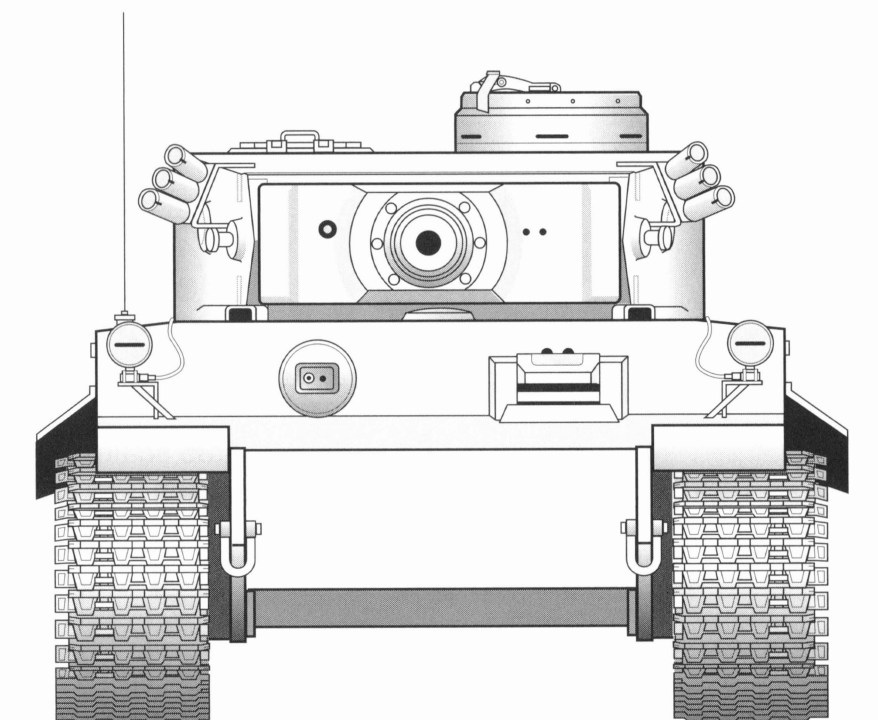
To bolster German defenses in the west, many of the captured French tank and tractor chassis were converted to self-propelled gun platforms. Among these were 72 of the Hotchkiss H39 light tanks, of which 24 were converted to the 7.5cm PaK40(Sf) version as anti-tank weapons and the remainder mounting the 10.5cm leFH18 and serving as self-propelled field artillery. In the case of the H39, it was drastically gutted, with only the nose armor, hull pan and lower rear remaining recognizable.

This Panzerjäger version served in France trying to hold back the Allied invasion forces during 1944, and mention has been made of some also being sent to Jersey in the Channel Islands.

# Pz.Kpfw. VI (H), Ausf.H1, Sd.Kfz. 181

## “Tiger” early production

(sPzAbt. 501, 1. kompanie, Tunisia, October 1942)



The 20 early Tigers issued to schwere Panzerabteilung 501 arrived with quite different features than those that appeared on later models. The Tigers received by 1. kompanie displayed the following traits.

The early narrow mud flaps front & rear had no outer flaps. The turret bins were also custom-made and were somewhat larger than the later standard version. The two headlamps were fitted halfway down the front plate to prevent them from being swept off when the gun tube traversed in a low sweep. In contrast to this, their 2. kompanie carried track sections on their bow plate and left the lights up top. Also, these early models still featured a second pistol port at the right rear of the turret, in place of the more common circular escape hatch. Spare tracks were carried low on the rear below the exhaust system. The tow cables and deck tools were carried in a slightly different arrangement.

These sPzAbt. 501 Tigers were painted desert sand before they were transported to Africa. The Tigers of 1. kompanie displayed a bold, larger than normal Balkenkreuz in the middle of the hull side. Their very large turret numbers were almost the full height of the turret side, and initially consisted of a simple thin white outline, with no fill. Evidence seems to show that they may have been filled in with red or black at a later date though.

The early bevelled style exhaust cover shrouds with cooling slits and the Feifel external air pre-cleaners were characteristic of these first desert Tigers. This Feifel air-cleaner system was essential to the operation of these vehicles in the fine dust of Tunisia.



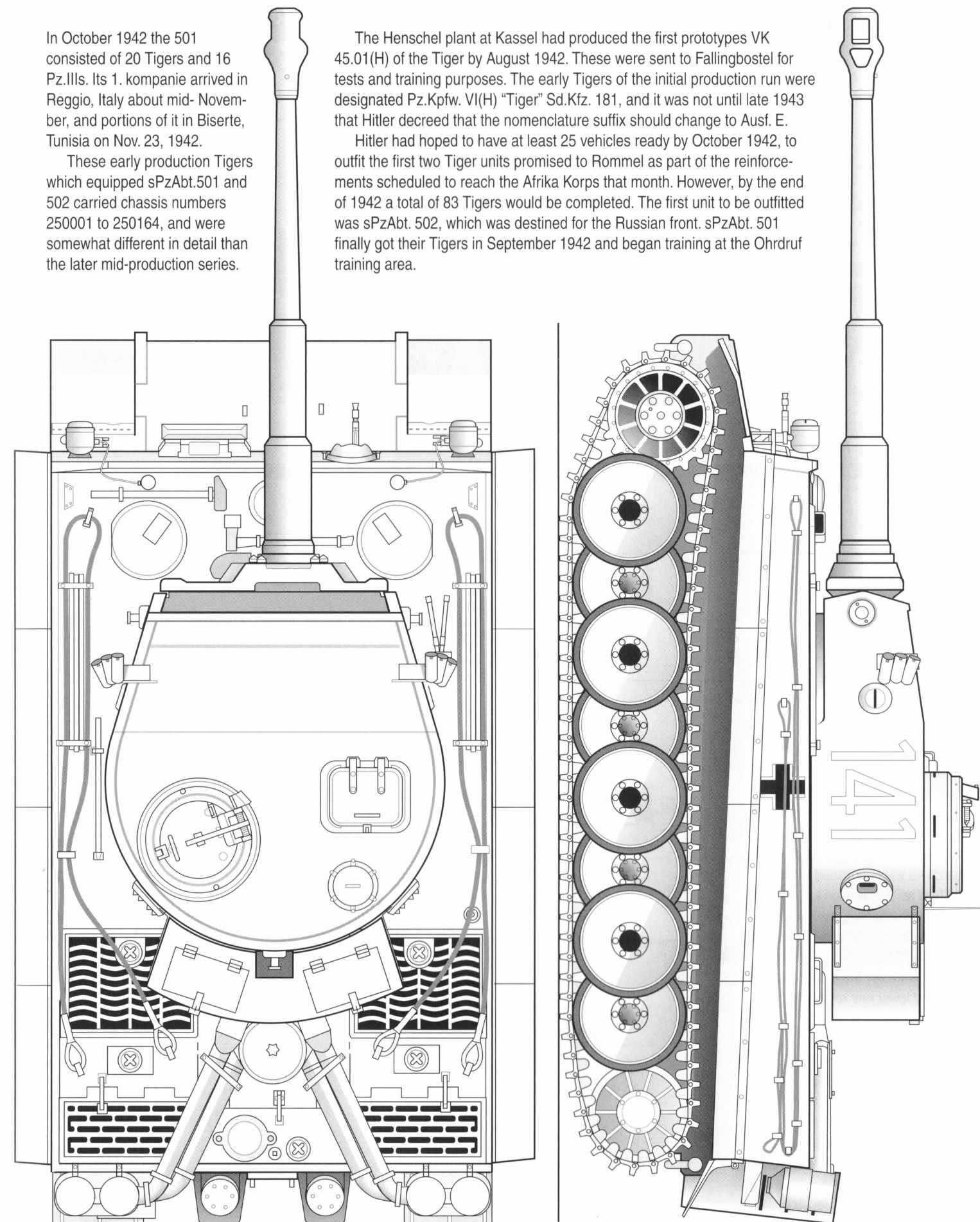
The “stalking tiger” symbol of sPzAbt. 501 (in yellow/orange), and the heavy tank rhomboid symbol (in red). These unit symbols seem to have appeared mainly on the Pz.IIIs and softskins of 501 at this time, but close scrutiny will sometimes reveal the tiger barely visible on the right rear just below the jack.

In October 1942 the 501 consisted of 20 Tigers and 16 Pz.IIIs. Its 1. kompanie arrived in Reggio, Italy about mid-November, and portions of it in Biserte, Tunisia on Nov. 23, 1942.

These early production Tigers which equipped sPzAbt.501 and 502 carried chassis numbers 250001 to 250164, and were somewhat different in detail than the later mid-production series.

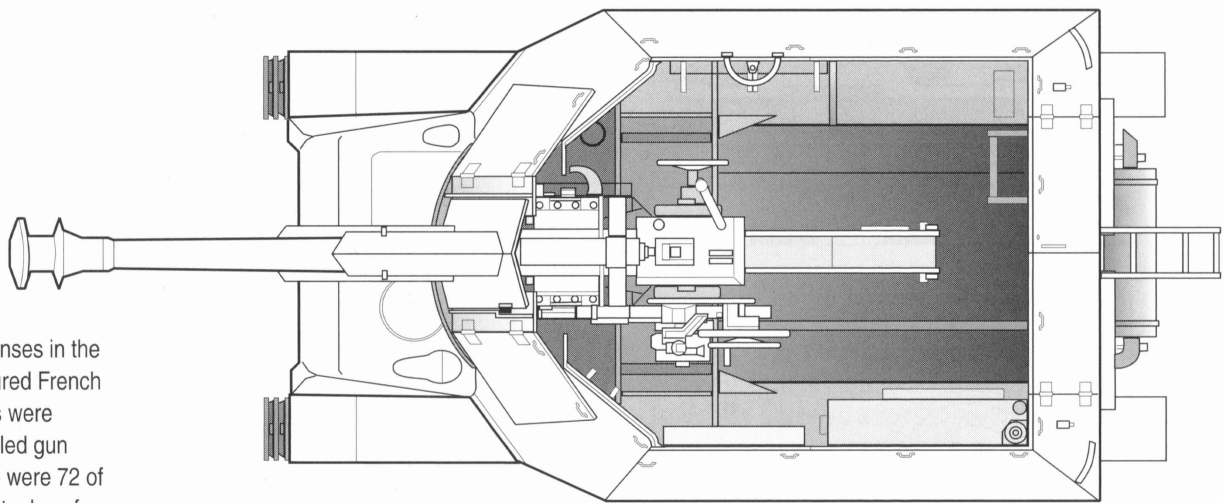
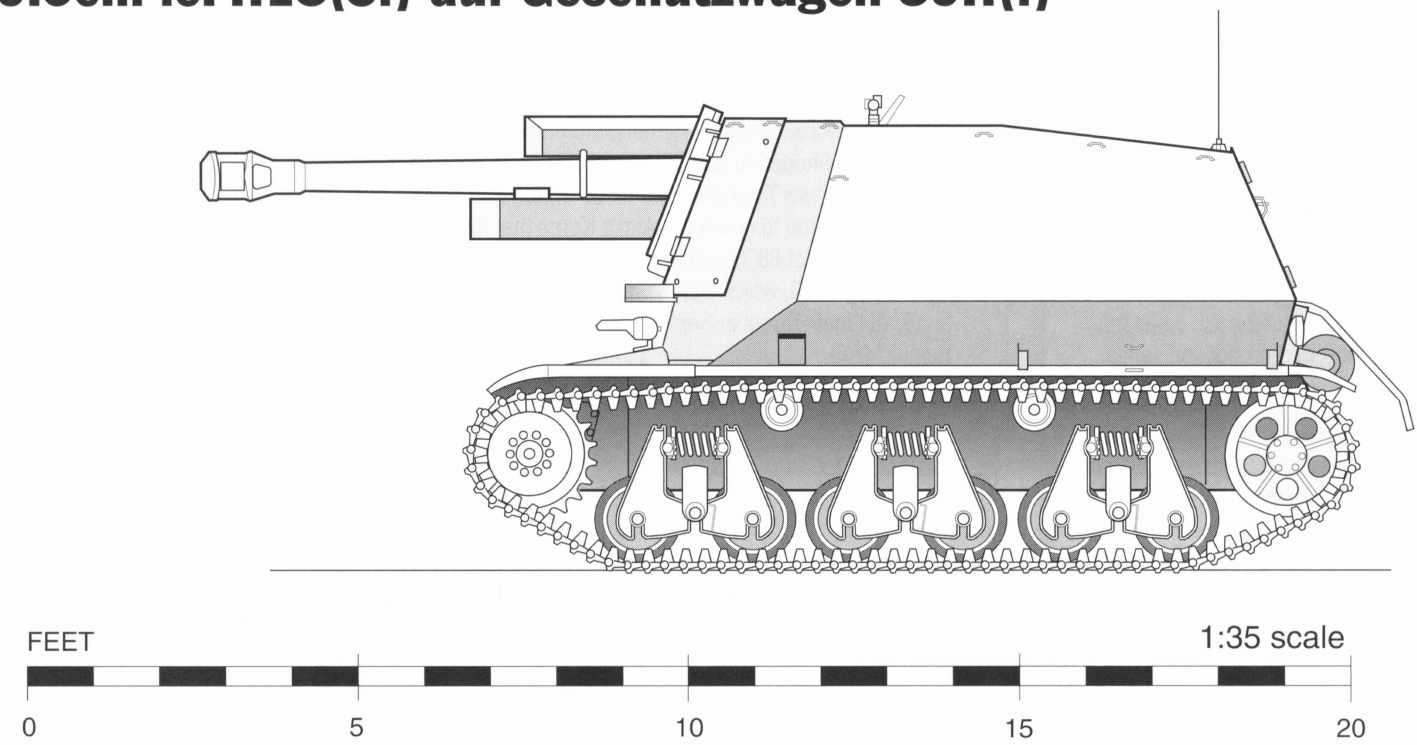
The Henschel plant at Kassel had produced the first prototypes VK 45.01(H) of the Tiger by August 1942. These were sent to Fallingbommel for tests and training purposes. The early Tigers of the initial production run were designated Pz.Kpfw. VI(H) “Tiger” Sd.Kfz. 181, and it was not until late 1943 that Hitler decreed that the nomenclature suffix should change to Ausf. E.

Hitler had hoped to have at least 25 vehicles ready by October 1942, to outfit the first two Tiger units promised to Rommel as part of the reinforcements scheduled to reach the Afrika Korps that month. However, by the end of 1942 a total of 83 Tigers would be completed. The first unit to be outfitted was sPzAbt. 502, which was destined for the Russian front. sPzAbt. 501 finally got their Tigers in September 1942 and began training at the Ohrdruf training area.



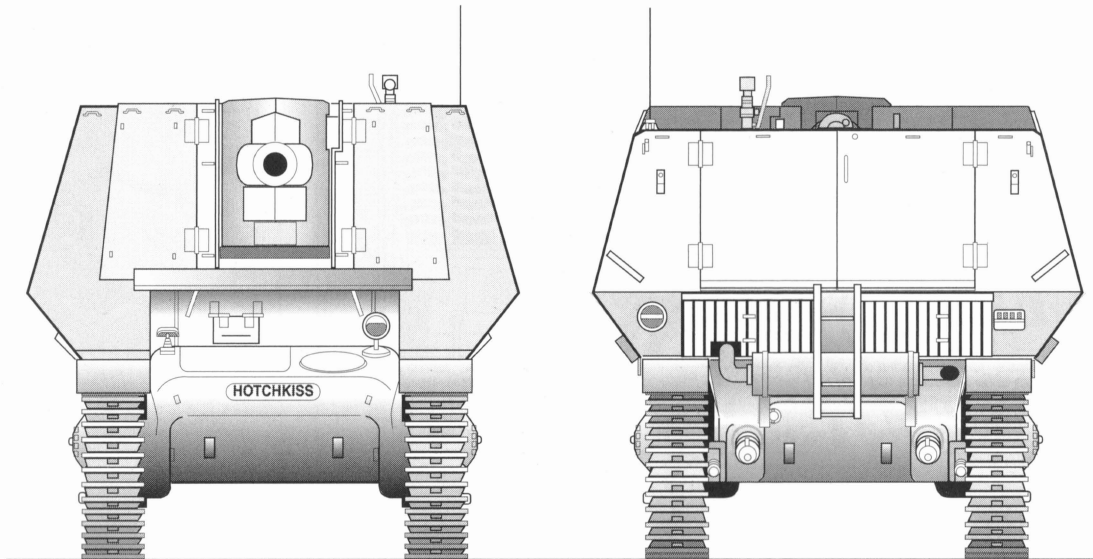


# 10.5cm leFH18(Sf) auf Geschützwagen 39H(f)



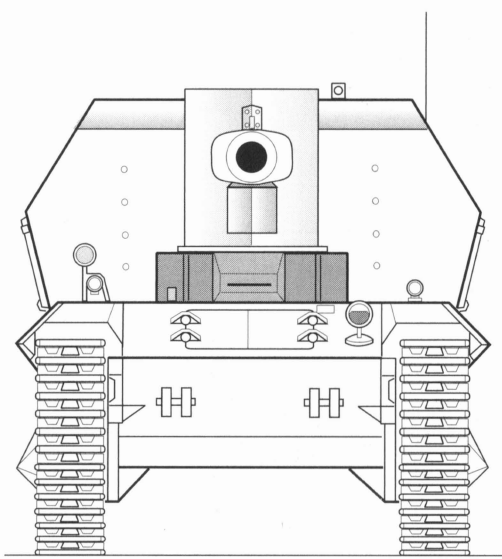
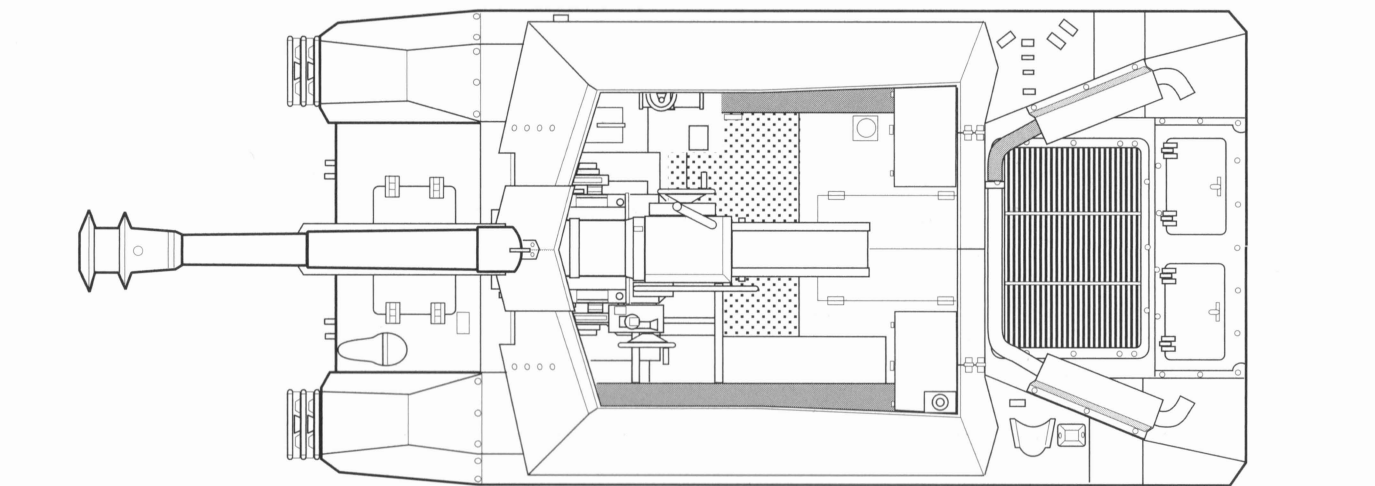
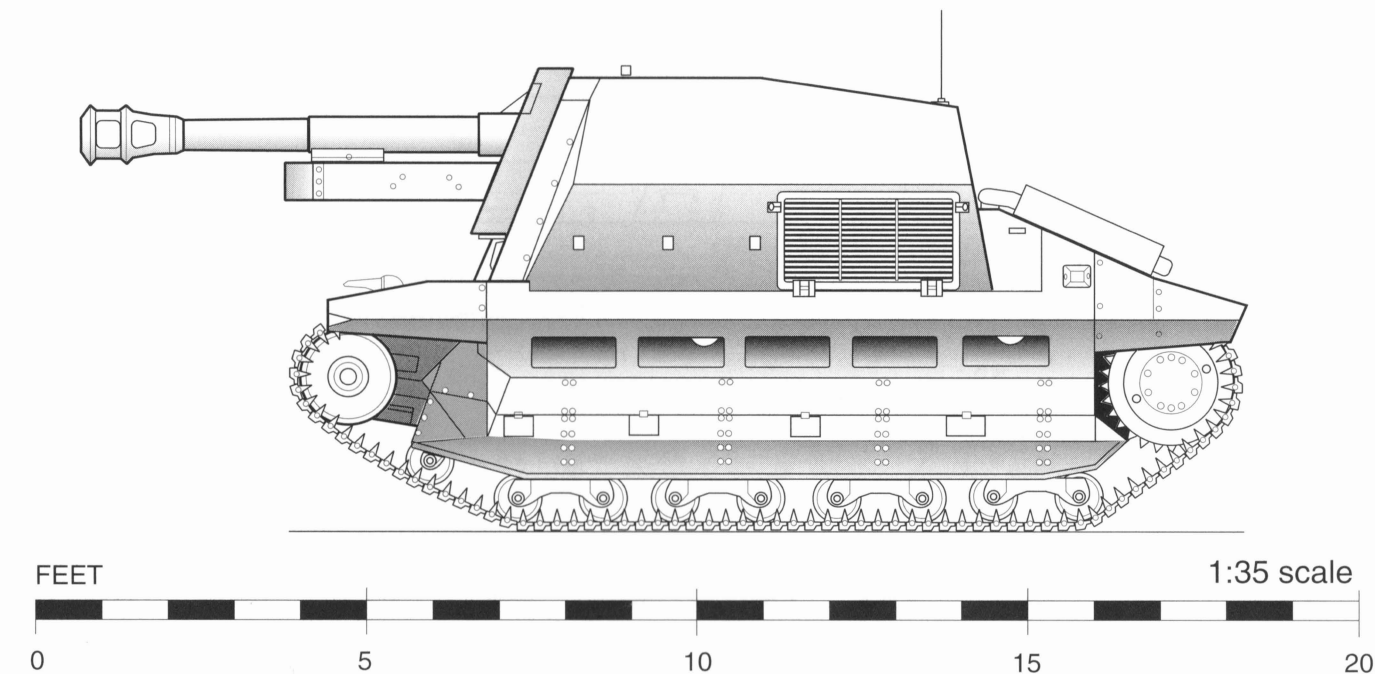
To bolster German defenses in the west, many of the captured French tank and tractor chassis were converted to self-propelled gun platforms. Among these were 72 of the Hotchkiss H39 light tanks, of which 48 were converted to the 10.5cm leFH18 version and the remainder mounting the 7.5 PaK40 and serving as anti-tank weapons. In the case of the H39, it was drastically gutted, with only the nose armor, hull pan and lower rear remaining recognizable.

The leFH18 version were eventually issued to the 8th Panzerartillerie Abteilung and served in France trying to hold back the Allied invasion forces during 1944. They also appear to have been integrated into Becker's Assault Gun Battalion 200 which utilized a goodly number of converted French armored vehicles.

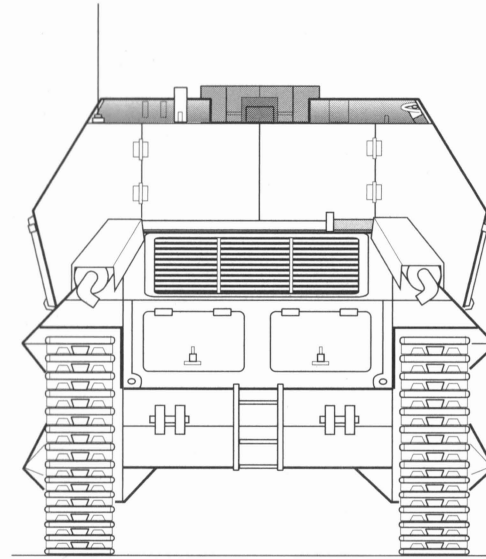


# 10.5cm leFH16(Sf) auf Geschützwagen FCM(f)

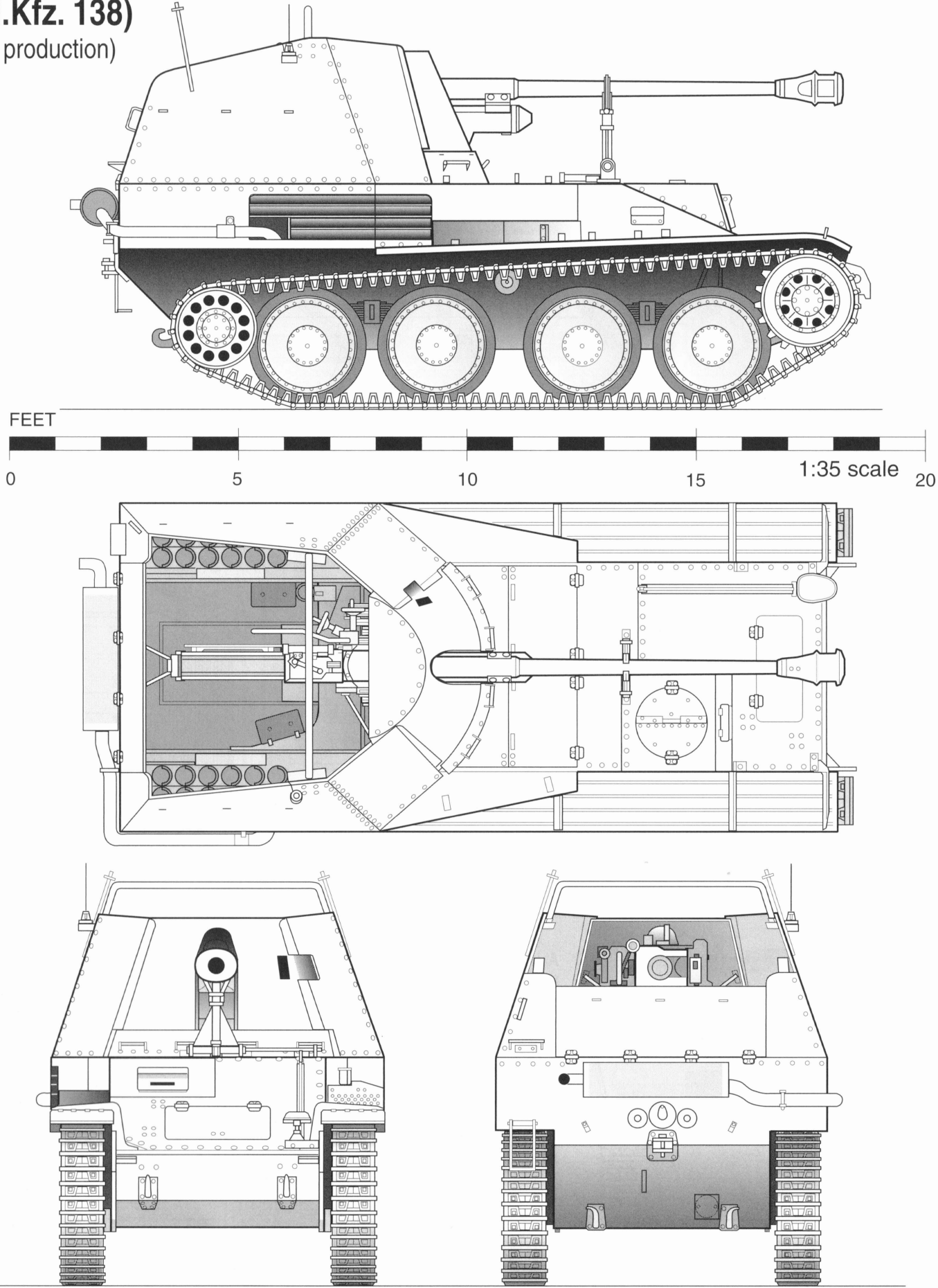
(Light Field Howitzer on Captured French Light Tank)



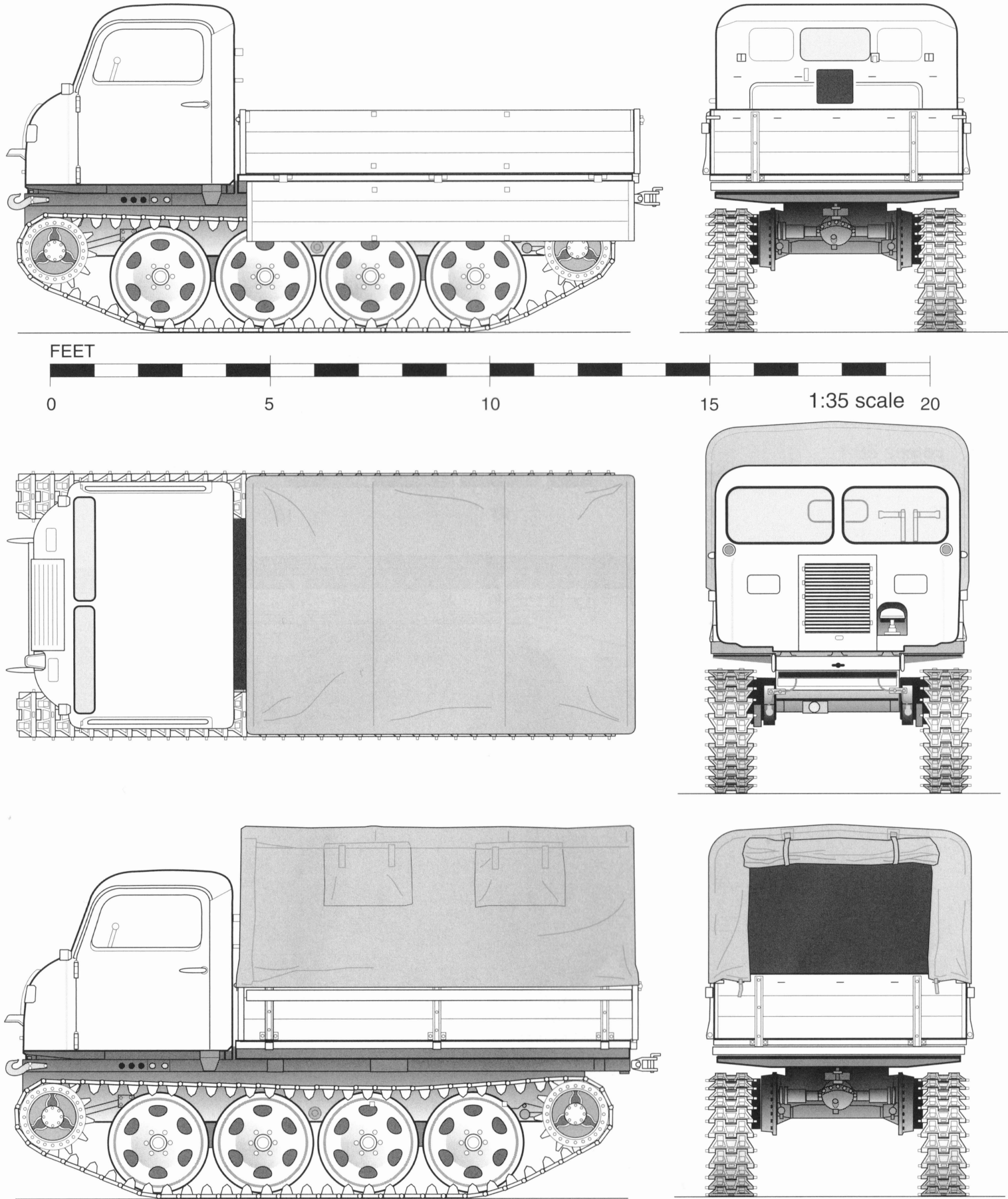
At least thirty-seven FCM 36 light tanks were recovered by the Germans after fighting ceased in 1940. These diesel engine chassis were far from ideal for conversion to gun carriages, but the Alfred Becker plant took on the challenge. Ten were fitted with the 7.5cm PaK 40, and 24 were modified to mount the old 10.5cm leFH 16 L/22. This gun had to be fitted with a muzzle brake in order to keep the recoil to a minimum in such a small fighting compartment.



**Panzerjäger 38(t) mit 7.5cm PaK40/3 Ausf. M, Marder III**  
**(Sd.Kfz. 138)**  
(mid production)

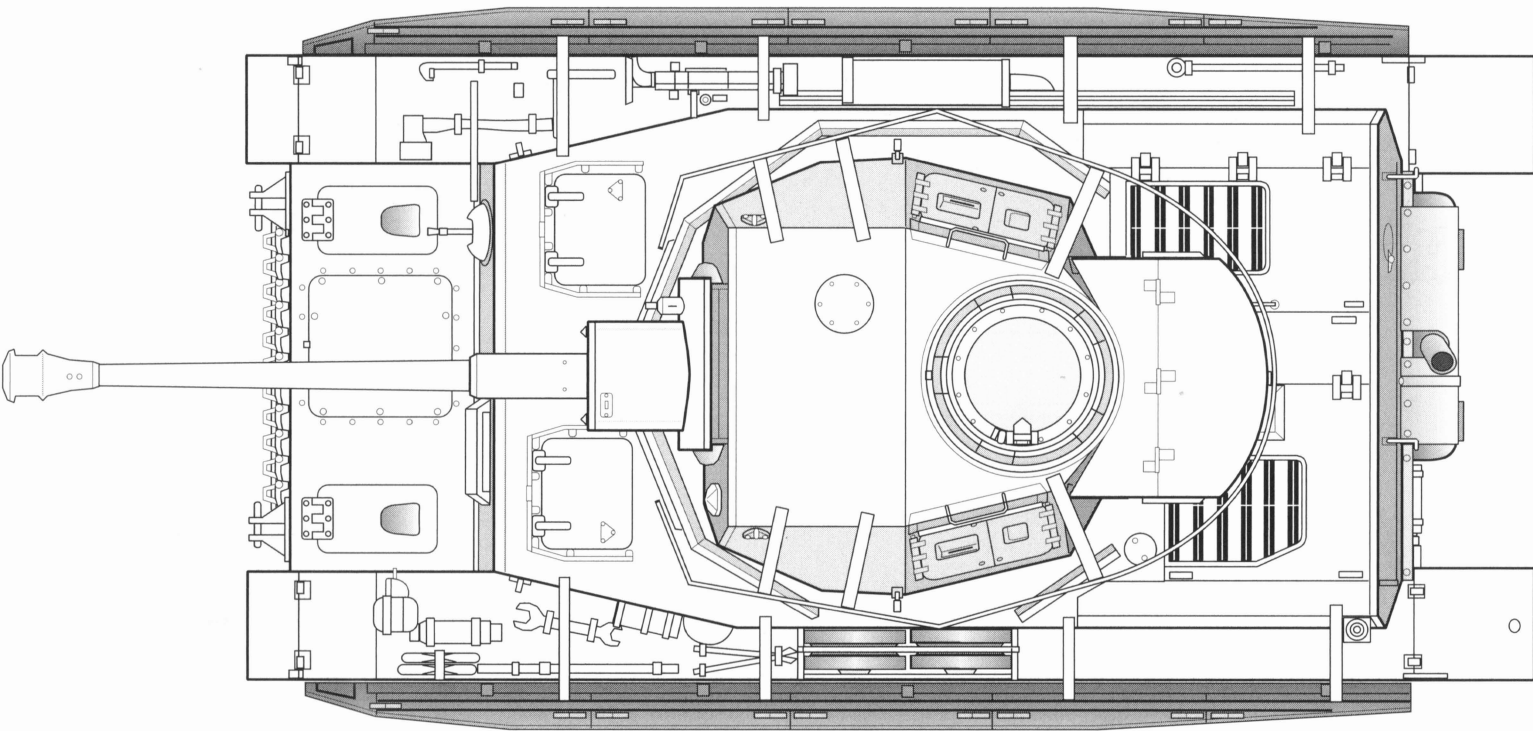
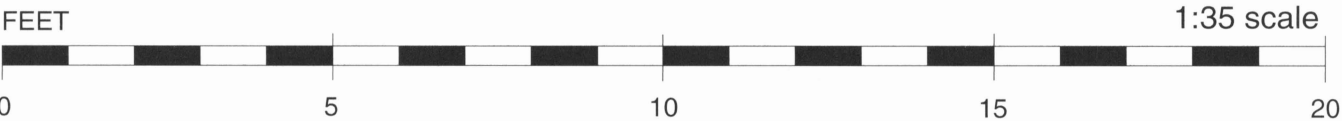
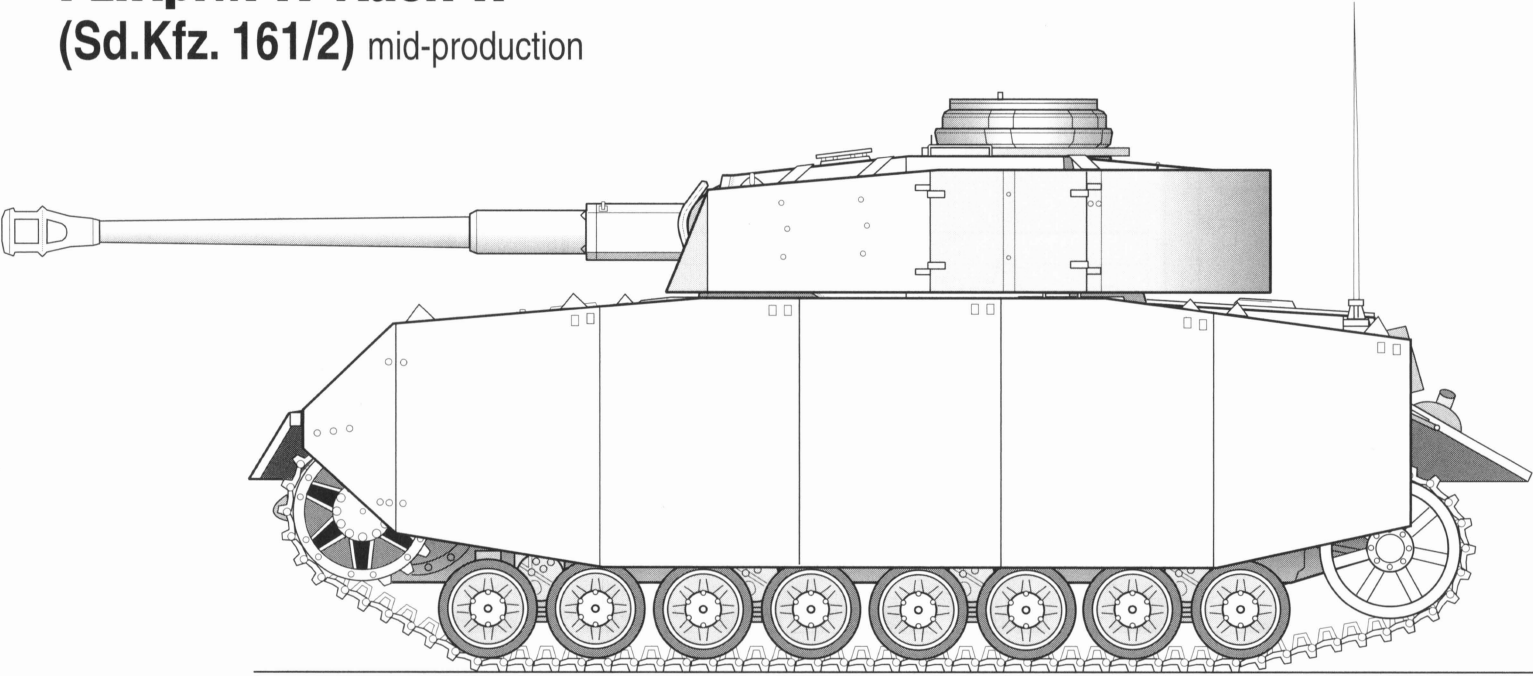


**Raupenschlepper Ost : RS0/01**



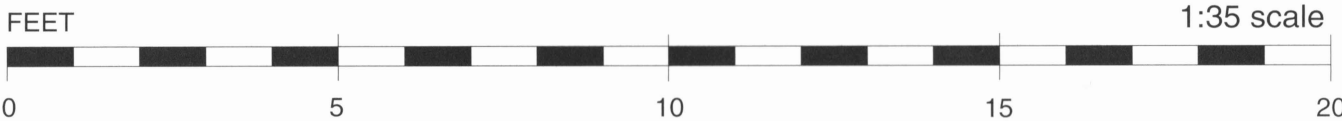
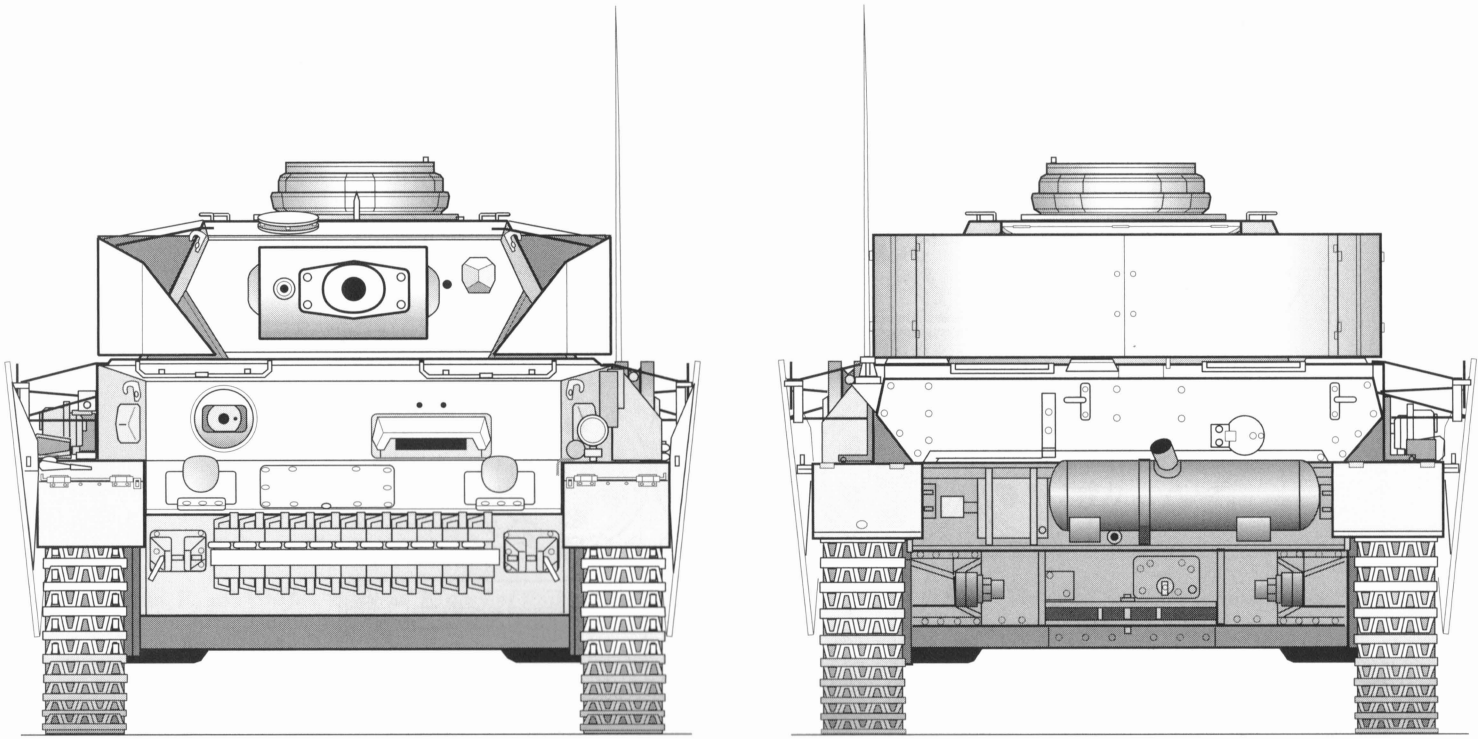


**Pz.Kpfw. IV Ausf. H**  
(Sd.Kfz. 161/2) mid-production



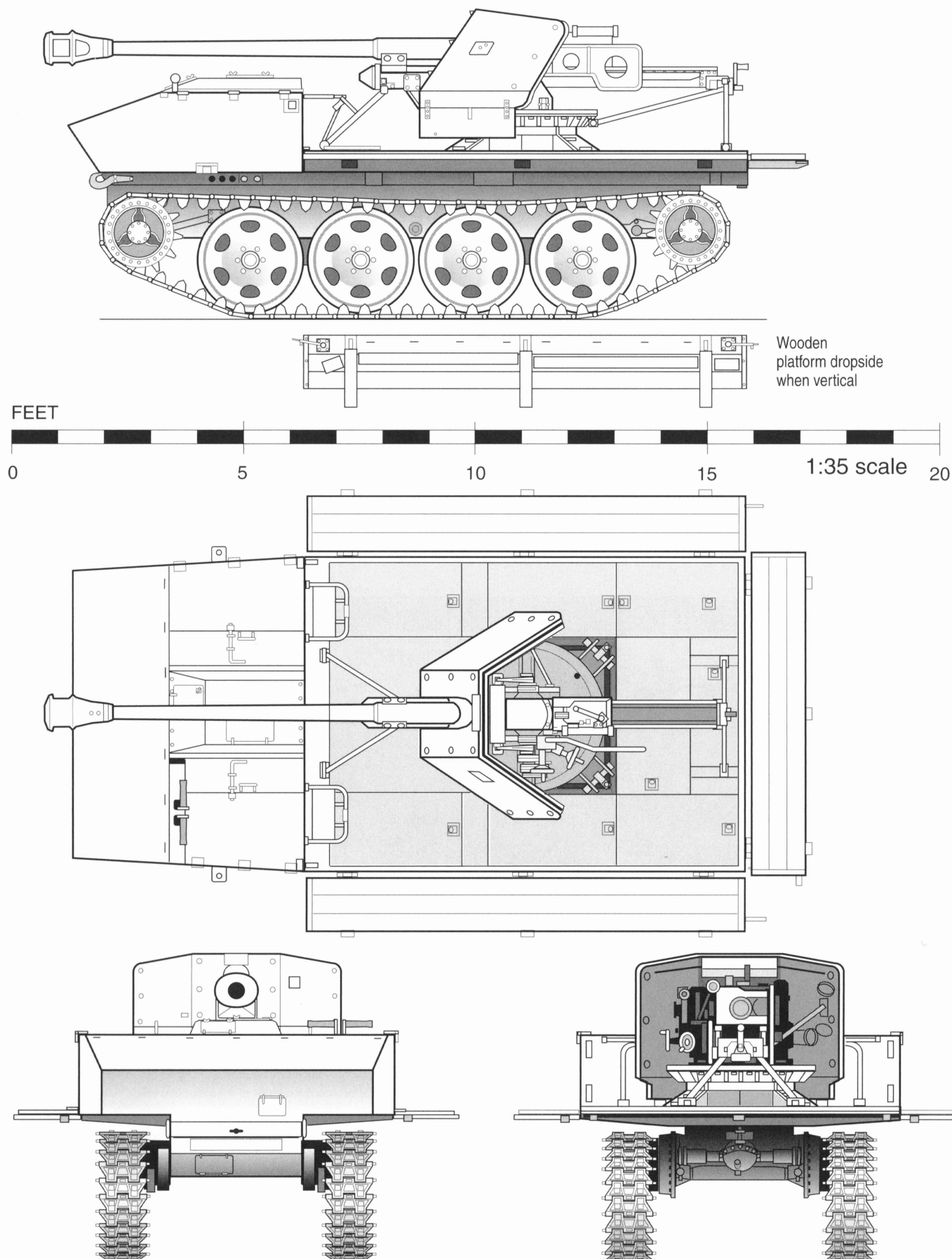
There were just under 4,000 Ausf. H chassis built between April 1943 and July 1944. However, the life span of the Pz.Kpfw. IV was slowly coming to an end and the Ausf. H was more or less the final version, with the Pz IV chassis being given over

to the StuG IV and JagdPz IV designs. The final changes had been a new type of transmission, one piece 80mm frontal armor now, a new style idler, deletion of side vision ports, and the introduction of all steel return rollers.



A Pz.Kpfw. IV Ausf. H of 12th Panzer Division decked out in summer camouflage during a stop in a Russian village in 1943.

## 7.5cm PaK40/4 auf Raupenschlepper Ost (Sf)

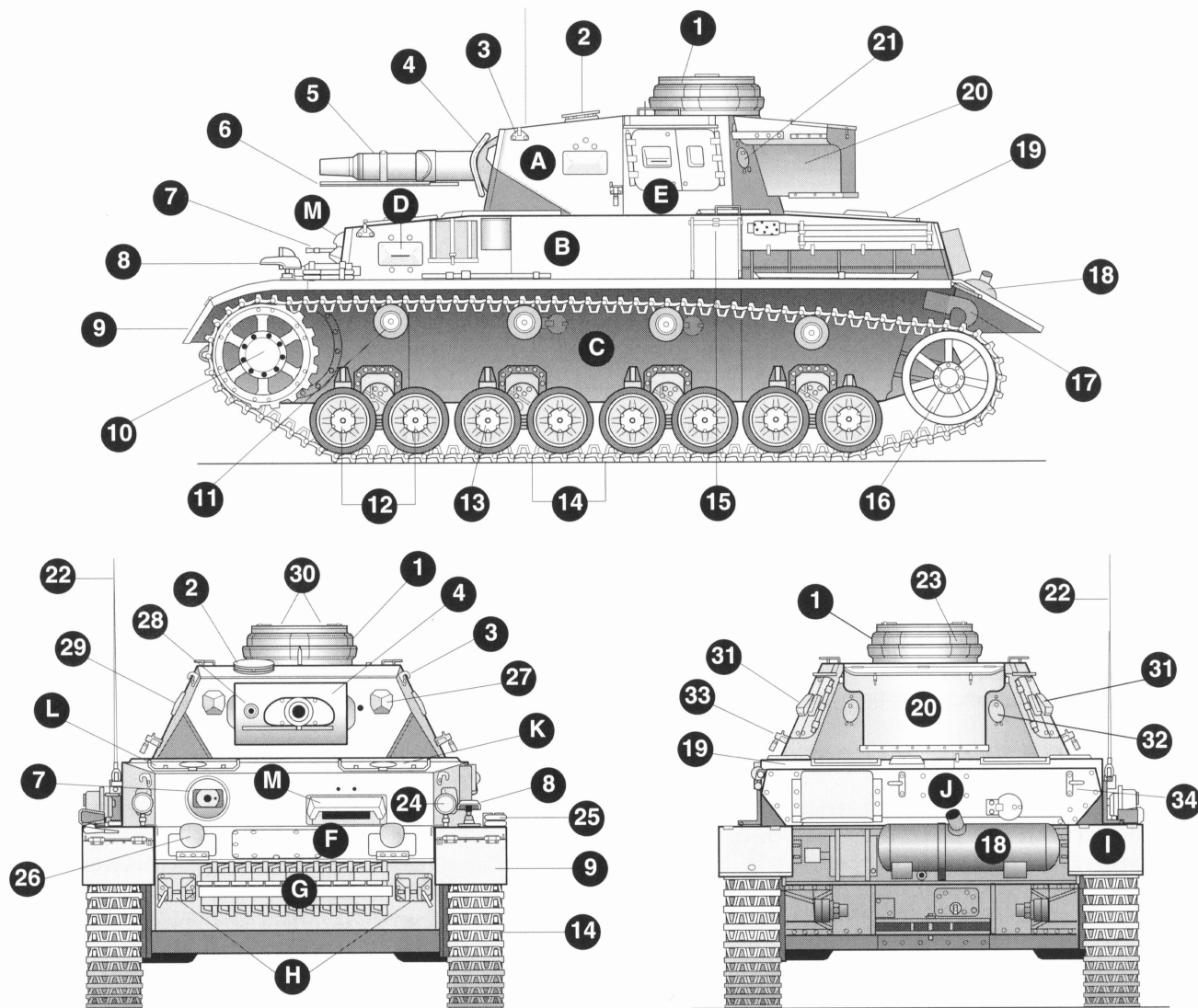


## Bibliography

- Chamberlain, P., and C. Ellis. *Pictorial History of Tanks of the World, 1915-45*. London: Arms and Armour Press, 1972.
- Chamberlain, P., H. Doyle, and T. Jentz. *Encyclopedia of German Tanks of World War Two*. London: Arms and Armour Press, 1978.
- Chant, C. *Artillery: Over 300 of the World's Finest Artillery Pieces from 1914 to the Present Day*. London: Amber Books Ltd., 2005.
- Crowe, D., and R. J. Icks. *Encyclopedia of Armoured Cars*. Secaucus, NJ: Chartwell Books Inc., 1997.
- . *Encyclopedia of Tanks*. London: Barry & Jenkins Limited, 1975.
- Duske, Heiner F. *NUTS & BOLTS series*. Uelzen, Germany: Frank Schulz, 1996-2006.
- Vol. 1: *Jagdtiger (Sd Kfz 186)*. Duske, Greenland, Schulz.
- Vol. 2: *Wespe (Sd Kfz 124)*. Duske, Greenland, Schulz.
- Vol. 4: *Sd Kfz 222 & 223*. Duske, Greenland, Schulz.
- Vol. 5: *Saurer RK-7 (Sd Kfz 254)*. Duske, Greenland, Schulz.
- Vol. 6: *Kanonenwagen (Sd Kfz 251/9)*. Duske, Greenland, Schulz.
- Vol. 7: *Panzerjäger I (Sd Kfz 101)*. Duske, Greenland, Schulz.
- Vol. 9: *Raupenschlepper Ost (RSO)*. Duske, Greenland, Schulz.
- Vol. 10: *Hummel (Sd Kfz 165)*. Duske, Greenland, Schulz.
- Vol. 11: *PzKpfw. 35(t) (Sd Kfz 124)*. Rue, Duske, Greenland, Schulz.
- Vol. 12: *FAMO 18t (Sd Kfz 9)*. Hettler, Duske, Greenland, Schulz.
- Vol. 13: *Flakpanzer IV (Sd Kfz 161/4)*. Terlisten, Duske, Greenland, Schulz.
- Vol. 14: *Nashorn (Sd Kfz 164)*. Terlisten, Duske, Greenland, Schulz.
- Vol. 15: *Marder III (Sd Kfz 139)*. Andorfer, Block, Nelson, Schulz.
- Vol. 16: *sZugkraftwagen 12t (Sd Kfz 8)*. Hettler, Duske, Greenland, Schulz.
- Vol. 17: *Marder III/M (Sd Kfz 138)*. Andorfer, Block, Nelson, Schulz.
- Vol. 18: *Marder III/H (Sd Kfz 138)*. Andorfer, Block, Nelson, Schulz.
- Vol. 19: *15cm sIG (Sf) auf PKpfw I/B*. Wilhelm, Duske, Terlisten.
- Fletcher, D. *Tanks in Camera, 1940-1943*. Stroud, UK: Sutton Publishing Limited, 1998.
- Forty, G. *Afrika Korps at War: The Long Road Back*. Shepperton, UK: Ian Allan Publishing, 1998.
- . *Afrika Korps at War: The Road to Alexandria*. Shepperton, UK: Ian Allan Publishing, 1998.
- . *A Photo History of Armoured Cars in Two World Wars*. Poole, UK: Blandford Press, 1984.
- Ichimura, H. *Panzers at Saumur, No. 3*. Tokyo: Dai Nippon Kaiga Co. Ltd., 1992.
- Icks, Robert J. *Tanks & Armored Vehicles, 1900-1945*. Old Greenwich, CT: WE Inc., 1967.
- Jentz, T. L., and H. L. Doyle. *Germany's Panther Tank: The Quest for Combat Supremacy*. Atglen, PA: Schiffer Publishing Ltd., 1995.
- . *Germany's Panzer in World War II*. Atglen, PA: Schiffer Publishing Ltd., 2001.
- . *Panzer Tracts No. 1-1, Panzerkampfwagen I*. Boyds, MD: Panzer Tracts, 2002.
- . *Panzer Tracts No. 1-2, Panzerkampfwagen I*. Boyds, MD: Panzer Tracts, 2002.
- . *Panzer Tracts No. 10: Artillerie Selbstfahrlafetten*. Boyds, MD: Panzer Tracts, 2002.
- . *Panzer Tracts No. 13: Panzerspahewagen*. Boyds, MD: Panzer Tracts, 2001.
- Kliment, C. K., and V. Francev. *Czechoslovak Armored Fighting Vehicles, 1918-1948*. Atglen, PA: Schiffer Publishing Ltd., 1997.
- . *Hetzer Jagdpanzer 38*. Prague, Czech Republic: MBI, 2001.
- . *Marder III & Grille*. Prague, Czech Republic: MBI, 1999.
- . *PRAGA LT vz. 38*. Prague, Czech Republic: MBI, 1997.
- . *SKODA LT vz. 35*. Prague, Czech Republic: MBI, 1995.
- Ledwoch, J. *SdKfz 251 Warsaw*. Poland: Wydawnictwo Militaria, 1994.
- Macksey, K. *Rommel: Battles and Campaigns*. Toronto: Thomas Nelson & Sons Ltd., 1979.
- Milsom, J., and P. Chamberlain. *German Armoured Cars of World War Two*. London: Arms and Armour Press, 1974.
- Pignato, N. *Atlante Mondiale dei Mezzi Corazzati*. Bologna, Italy: Ermanno Albertelli Editore, 1983.
- Regenberg, W. *Armored Vehicles and Units of the German Order Police, 1936-1945*. Atglen, PA: Schiffer Publishing Ltd., 2002.
- Spielberger, W. *Der Panzer-Kampfwagen Panther und Seine Abarten*. Stuttgart, Germany: Motorbuch Verlag, 1978.
- . *Panzer IV & Its Variants*. Atglen, PA: Schiffer Publishing Ltd., 1993.
- . *Sturmgeschütz & Its Variants*. Atglen, PA: Schiffer Publishing Ltd., 1993.
- Trojca, W. *PzKpfw. V, Panther*. Vol. 1. Gdansk, Poland: AJ-Press, 1999.



# Basic Tank Components



- A. Turret

B. Upper Hull

C. Lower Hull

D. Hull View Port

E. Turret Side Hatches

F. Glacis Plate

G. Spare Tracks

H. Towing Pintles

I. Rear Fender Flap

J. Rear Plate

K. Driver's Hatch

L. Radio Op. Hatch

M. Driver's Visor
1. Commander's Cupola

2. Air Ventilator

3. Turret Lift Hook

4. Gun Mantlet

5. Main Gun

6. Aerial Deflector

7. Bow Machinegun

8. Notek Night Light

9. Front Fender Flap

10. Drive Sprocket

11. Return Roller

12. Bogie Suspension Unit

13. Road Wheel

14. Track Links

15. Fold-up Step

16. Rear Idler Wheel

17. Chassis Lift Hook
18. Muffler

19. Engine Deck

20. Turret Stowage Bin

21. Rear Pistol Port

22. Aerial & Mount

23. Cupola View Port

24. Head Lamp

25. Tow Cable Hooks

26. Ventilator Cowls

27. Gunner's Vision Port

28. Coaxial Machine Gun

29. Turret Side View Port

30. Split Cupola Hatches

31. Turret View Port

32. Rear Pistol Port

33. Turret Hatch Stop

34. Cable Hanger Hooks

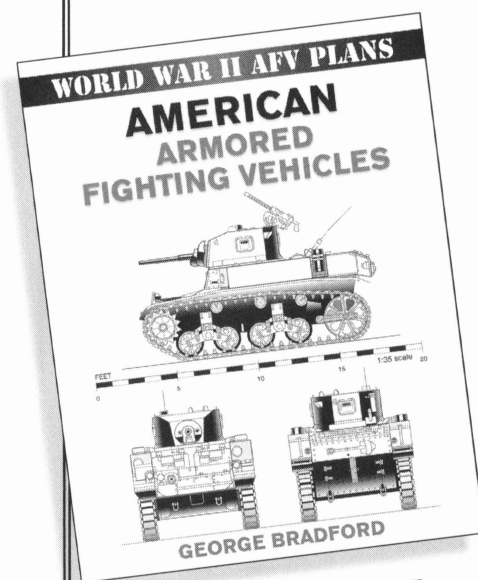
## VARIOUS MODELING SCALES

| Scale  | 1 inch<br>equals | 1 scale<br>foot = | 1 scale<br>meter = | Comments                         |
|--------|------------------|-------------------|--------------------|----------------------------------|
| 1:4    | 4"               | 3"                | 250.0 mm           | Flying Models, Live-steam Trains |
| 1:8    | 8"               | 1 1/2"            | 125.0 mm           | Cars, Motorcycles, Trains        |
| 1:12   | 1'               | 1"                | 83.3 mm            | Cars, Motorcycles, Dollhouses    |
| 1:16   | 1' 4"            | 3/4"              | 62.5 mm            | Cars, Motorcycles, Trains        |
| 1:20   | 1' 8"            | 19/32"            | 50.0 mm            | Cars                             |
| 1:22.5 | 1' 10 1/2"       | 17/32"            | 44.4 mm            | G-Scale Trains                   |
| 1:24   | 2'               | 1/2"              | 41.7 mm            | Cars, Trucks, Dollhouses         |
| 1:25   | 2' 1"            | 15/32"            | 40.0 mm            | Cars, Trucks                     |
| 1:32   | 2' 8"            | 3/8"              | 31.25 mm           | Aircraft, Cars, Tanks, Trains    |
| 1:35   | 2' 11"           | 11/32"            | 28.57 mm           | Armor                            |
| 1:43   | 3' 7"            | 9/32"             | 23.25 mm           | Cars, Trucks                     |
| 1:48   | 4'               | 1/4"              | 20.83 mm           | Aircraft, Armor, O-Scale Trains  |
| 1:64   | 5' 4"            | 3/16"             | 15.62 mm           | Aircraft, S-Scale Trains         |
| 1:72   | 6'               | 11/63"            | 13.88 mm           | Aircraft, Armor, Boats           |
| 1:76   | 6' 4"            | 5/32"             | 13.16 mm           | Armor                            |
| 1:87   | 7' 3"            | —                 | 11.49 mm           | Armor, HO-Scale Trains           |
| 1:96   | 8'               | 1/8"              | 10.42 mm           | 1/8" Scale Ships, Aircraft       |
| 1:100  | 8' 4"            | —                 | 10.00 mm           | Aircraft                         |
| 1:125  | 10' 5"           | —                 | 8.00 mm            | Aircraft                         |
| 1:144  | 12'              | —                 | 6.94 mm            | Aircraft                         |
| 1:160  | 13' 4"           | —                 | 6.25 mm            | N-Scale Trains                   |
| 1:192  | 16'              | 1/16"             | 5.21 mm            | 1/16" Scale Ships                |
| 1:200  | 16' 8"           | —                 | 5.00 mm            | Aircraft, Ships                  |

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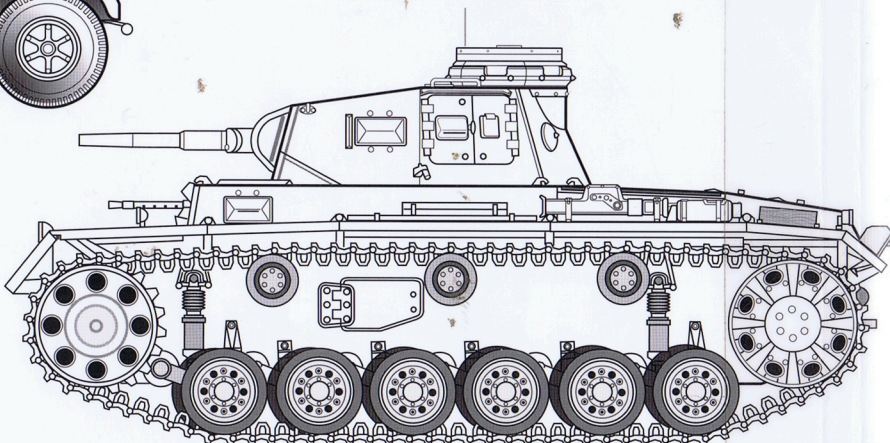
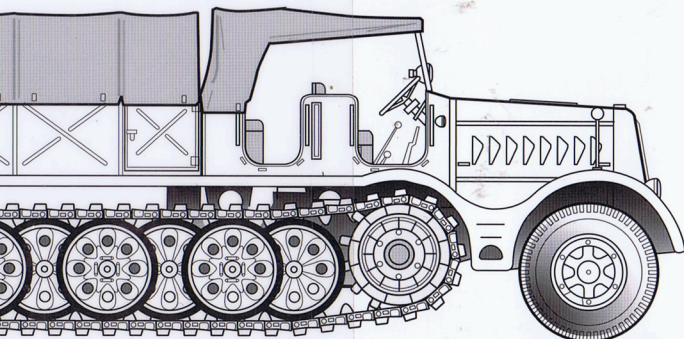
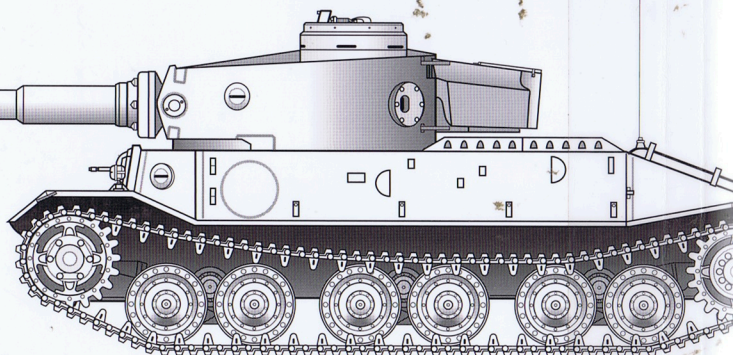
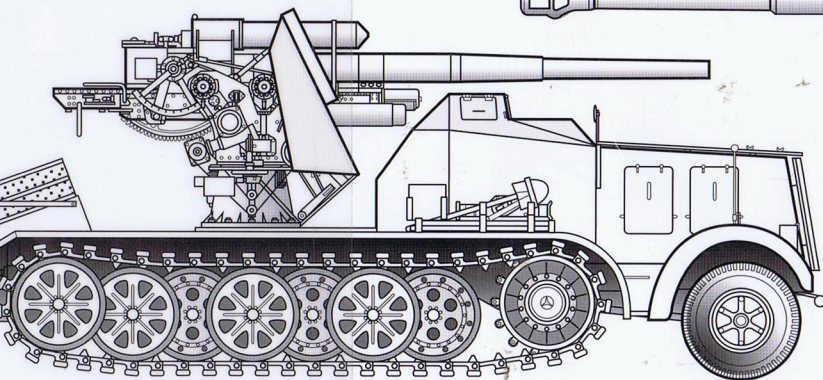
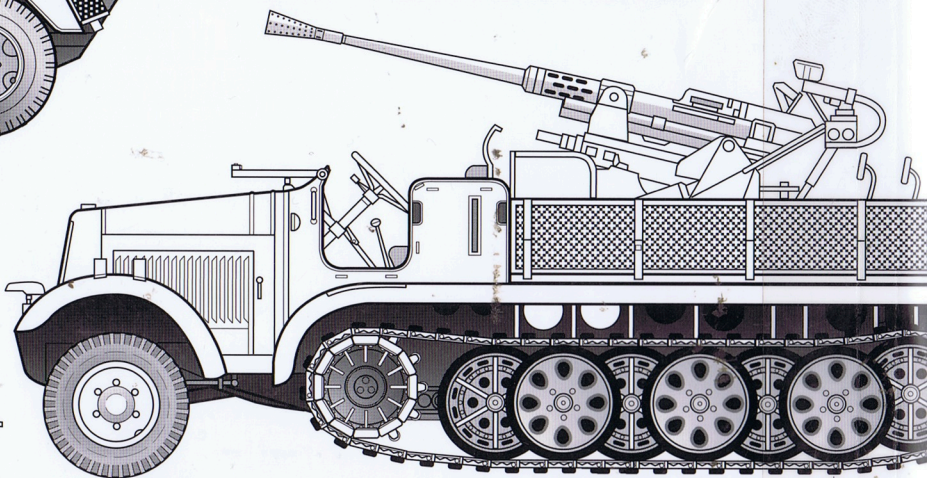
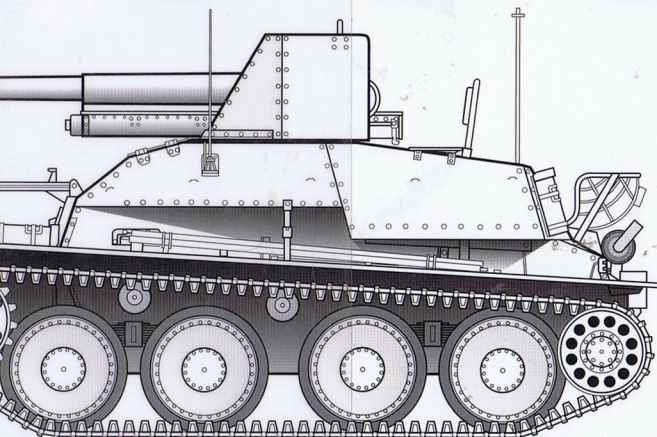
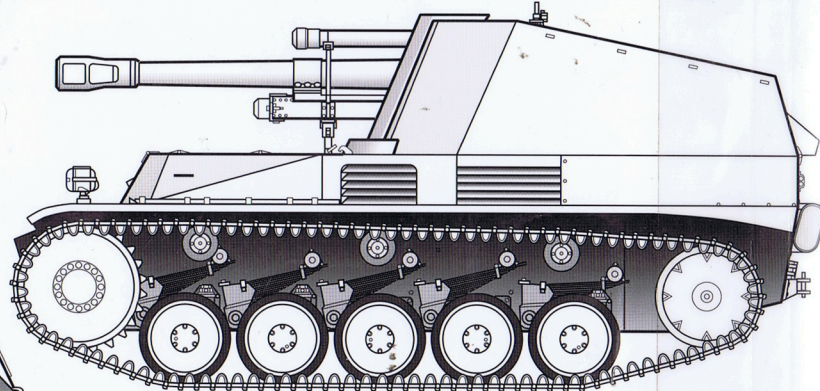
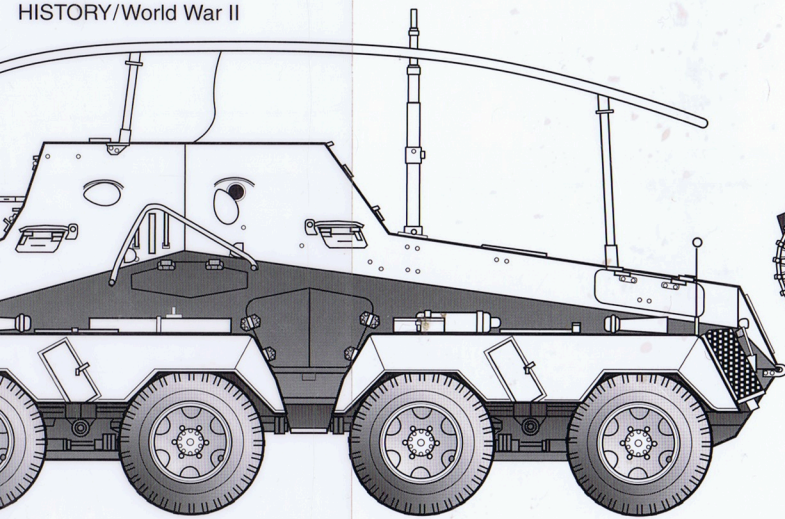
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